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Building a Capable and Reliable Aircraft

Defense AT&L interviews
Rear Adm. W. Mark Skinner, USN

*Program Executive Officer,
Tactical Aircraft Programs, U.S. Navy*

ALSO

**Paving the Way for Testing
in a Joint Environment**

The 800-Pound Gorilla

**The Changin' Program and
Business Financial Manager Roles**

A Game of Numbers

**Integrating Business and
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Building a Capable and Reliable Aircraft

Rear Adm. W. Mark Skinner, USN, Program Executive Officer, Tactical Aircraft Programs

The PEO for Tactical Aircraft discusses how his office ensures innovative, meaningful research and development and how it faces ever-evolving demands and increasing operations tempos.

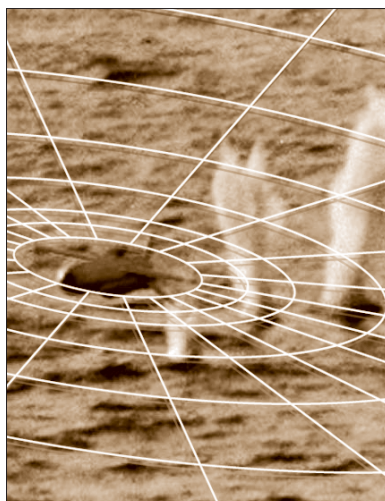


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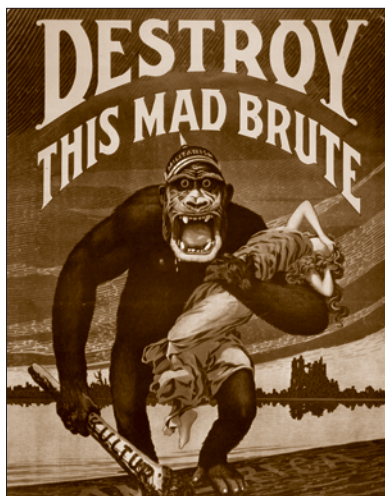


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Building a Capable and Reliable Aircraft

*Rear Adm. W. Mark Skinner, USN
Program Executive Officer, Tactical Aircraft Programs, U.S. Navy*

If a Department of Defense aircraft is struck by enemy weapons or needs to perform under extreme circumstances, the craft has but one task: Get its crew back home safely. The Program Executive Office for Tactical Aircraft Programs, Department of the Navy, is working to ensure the Navy's aircraft demonstrate proven capability and reliability in operations as varied and as dangerous as those required by current U.S. military operations. As the program executive officer overseeing PEO(T), Rear Adm. W. Mark Skinner is responsible for ensuring the office fosters innovative, meaningful research and development, and that it maintains a myriad of programs in the face of ever-evolving demands and increasing operations tempos. He recently took time to talk to *Defense AT&L* about his office's current tasks and challenges.

To help programs become successful, we establish a comprehensive technical baseline, a realistic schedule, and an independent cost estimate at the program's inception.

Q:

The Navy has made a commitment to fielding a 313-ship fleet. As the Navy moves forward in building this fleet, compromises have been required on other historic priorities. Because of affordability constraints, this may require tradeoffs between sailor end-strength, readiness, and even procurement of aircraft versus ships. How do you see the recent cost growth in naval shipbuilding programs impacting the PEO for tactical aircraft programs?

A:

The Department of the Navy's budget request for fiscal year 2009 is currently being analyzed and enacted by Congress as part of the president's budget. The 2009 request maintains the commitment for a 313-ship fleet while putting significant investment into enhancing our tactical aviation capabilities in strike warfare; information, surveillance, and reconnaissance; networked operations; and airborne electronic attack systems. The Navy is currently making adjustments to its proposed programs for fiscal years 2010 through 2015, taking into account a wide variety of factors, including any shifts in priorities reflecting our ongoing participation in the war on terrorism and the need to balance current readiness with investment in future capabilities.

Some trade-offs that are considered in each year's plan are optimization

of production rates, sustaining the nation's shipbuilding and aircraft industrial base, and pacing the current and expected threats to achieve the range of capabilities requested by the combatant commanders. There is always cost pressure as the Navy seeks to achieve the proper balance of risks and opportunities within and across warfare areas, while staying within our funding constraints; and the Navy's PEOs provide the acquisition expertise to help the requirements and resources communities examine the cost and executability of a variety of options. Any proposed changes to procurement quantities or profiles that might result from these analyses are still in the decision-making stage, so it would be premature to speculate on any specific issues.

Q:

Environmental concerns play an increasingly important role in program management. In February of this year, the PMA-265 division of PEO(T), which manages the variants and subsystems of the F/A-18 Hornet and Super Hornet and the EA-18G Growler, was awarded its fourth consecutive Chief of Naval Operations Environmental Award for Environmental Excellence. Can you describe this achievement?

A:

It is a testament to the PMA-265's hard work and dedication to have sustained this high level of achievement. PMA-265 is the only team to have four consecutive wins in this category. It's truly an unprecedented accomplishment.

The success can be partially attributed to the program's decision to dedicate a manager to oversee the environment, safety, and occupational health requirements as part of the acquisition process. Having an ESOH process action forum and a solid system safety team has been instrumental. PMA-265 has been focused, empowered, and ready to assist the ESOH manager with implementing initiatives and assessing potential concerns or risks in the areas of environmental compliance, system safety, occupational health, hazardous materials management, and environmental planning analysis (such as the National Environmental Policy Act and Executive Order 12114).

But more important is PMA-265's continued commitment to intelligently executing DoD Instruction 5000.2 requirements while supporting the end user and, in some cases, serving as the naval aviation lead in implementing policy. The program also sponsors research and implementation of processes and technologies that help to minimize ESOH risks and regulatory burdens. Some of these successes are:

- Serving as one of the first ACAT I programs to develop a programmatic ESOH evaluation and strategy and being the first Navy program to comply with the

March 2007 under secretary of defense for acquisition, technology and logistics policy memorandum formally acknowledging an ESOH risk—which, in the case of the memo, was the occupational noise hazards naval jet aircraft imposed to personnel aboard aircraft carriers. PEO(T) and PMA-265 are engaged with various Office of Naval Research and Small Business Innovative Research initiatives and noise reduction technologies, such as fluidic and mechanical chevrons. We recently demonstrated in static engine tests the ability to achieve sound-level reductions over much of the frequency range (approximately 2.5 decibels) with no thrust impact up to a maximum afterburner engine setting at sea-level static conditions. Not losing the high-thrust capability of the aircraft is critical if the user is to accept the viability of these technologies.

- Flying 182,836 hours without incident. PMA-265's success in designing safety into the Super Hornet and maintaining safety readiness has led the program to surpass 100,000 Class A mishap-free flight hours.
- Continuing to sponsor the trapped vortex combustor, which is a promising technology initiative for reducing emission levels associated with high-power engines such as the GE F-4XX series engines used in the Hornet aircraft.
- Promoting the reduction of material usage both within the aircraft itself and at our aircraft and engine supplier's manufacturing facilities. Our system contractors have made great strides in reducing the use of hazardous materials and the amount of hazardous waste generated throughout the acquisition life cycle, both at their facilities and with the aircraft itself. For example, the design of the Super Hornet contains 40 percent fewer parts and 50 percent fewer cadmium-plated fasteners [*cadmium is toxic and can have a negative impact on the environment*]. We have also designed halon out of the engine fire-suppression system.
- Promoting increased recycling and reuse of Hornet parts when the aircraft enters demilitarization and disposal, and going beyond recycling and reuse of parts identified by the Naval Inventory Control Point save list.
- Enhancing our reporting and prioritization processes for hazardous materials management.

PMA-265 remains committed to mission and environmental sustainment. We will continually seek greener solutions in aircraft design, production, and maintenance processes through technologies and alternatives to reduce our program's ESOH footprint.

Q:

The multi-mission EA-18G Growler is an evolutionary upgrade of the F/A-18C/D Hornet currently in service, and it is expected to perform the airborne electronic attack mission currently being flown by the EA-6B Prowlers. Can you describe what this new fighter will offer? How has it been matured?

A:

The EA-18G Growler's team members adopted a low-risk, evolutionary acquisition strategy with proven mature technologies. The Growler combines the airframe and mission systems of Boeing's two-seat, F-model, Block II, next-generation Super Hornet, including the state-of-the-art active electronically scanned array (AESA) radar and the AN/AYK-22 stores management system. In all, the Growler shares more than 90 percent commonality with the Super Hornet. It also has the latest improved capability III system developed for the EA-6B Prowler. The ALQ-227 countermeasures communications jamming suite and the integrated noise cancellation system were developed to give the Growler improved capability.

In the Growler, the 20 mm Vulcan cannon commonly found on the Super Hornet is removed and additional electrical equipment is added, with the remaining capabilities provided using pod attachments like its ALQ-218 wingtip receivers and ALQ-99 systems. External fuel tanks will be commonly used on the jet to improve the EA-18G's range and loiter time.

The Growler's specific features include:

- ALQ-218(V)2 receiver
- ALQ-99 tactical jamming pods
- ALQ-227 communications countermeasures
- Set satellite communications
- AESA radar
- Joint helmet-mounted cueing system
- Anti-radiation missiles/AIM-120C weapons.

Both aircraft and mission system components of the Growler system were mature and proven systems from the start of the program. The program team did an outstanding job of integration, including establishment of an integrated test and evaluation team to evaluate the systems performance and stability. Much of the developmental testing has been completed, and the system will enter into the operational test this fall.

The current and next-generation capabilities that were combined on that AESA-enabled, front-line strike fighter will provide joint and coalition commanders with unparalleled mission capability and flexibility.

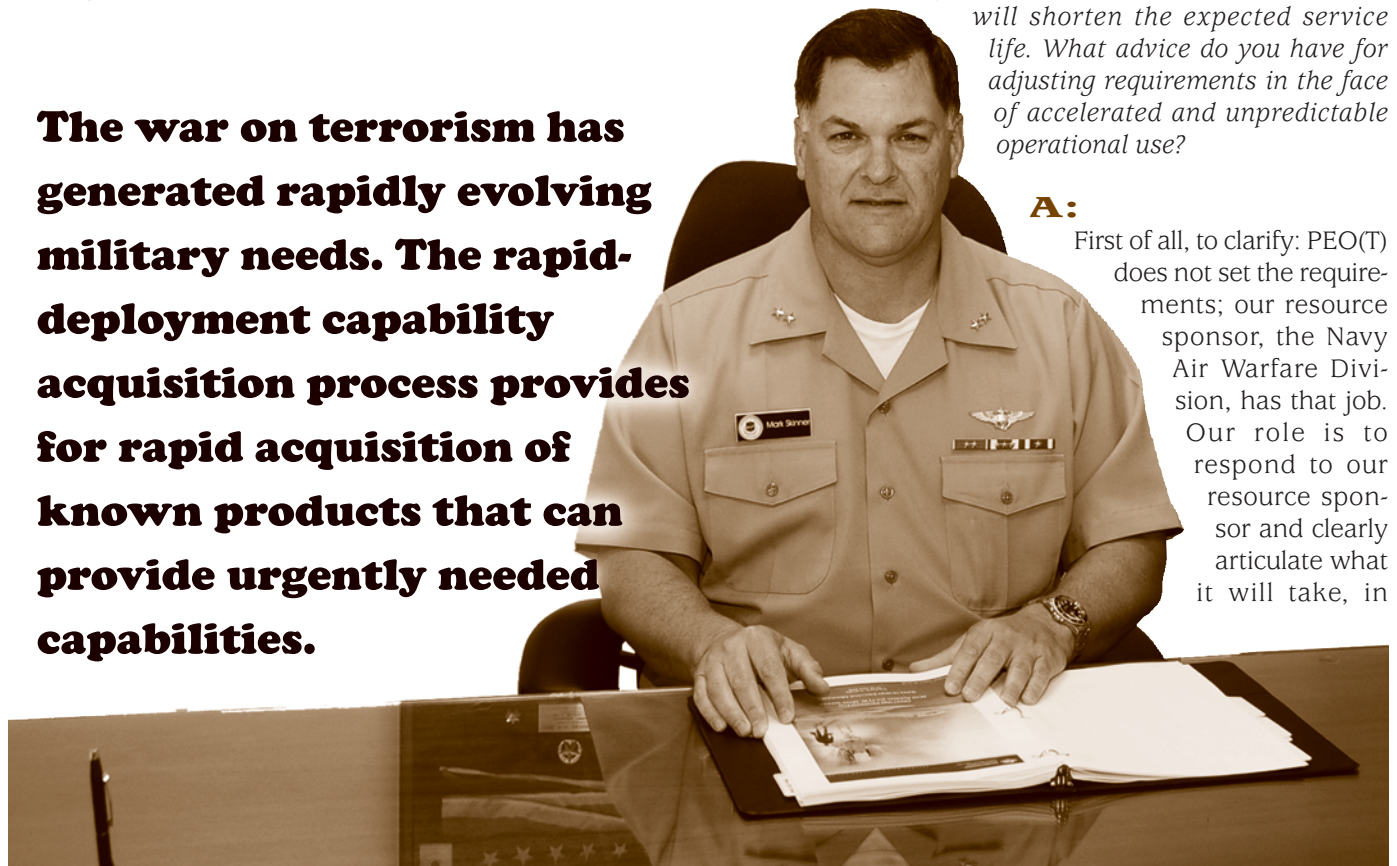
Q:

The F/A-18E/F Super Hornet, currently the Navy's multi-mission strike fighter, is now in its ninth year of full production. While well over half of the total procurement objective has been delivered, additional Super Hornets have been requested to bridge the projected shortfalls resulting from excessive operational use, which will shorten the expected service life. What advice do you have for adjusting requirements in the face of accelerated and unpredictable operational use?

A:

First of all, to clarify: PEO(T) does not set the requirements; our resource sponsor, the Navy Air Warfare Division, has that job. Our role is to respond to our resource sponsor and clearly articulate what it will take, in

The war on terrorism has generated rapidly evolving military needs. The rapid-deployment capability acquisition process provides for rapid acquisition of known products that can provide urgently needed capabilities.



terms of resources and effort, to execute the requirements given to us. To accomplish that, we need to clearly understand the requirement and the current situation, forecast future operational commitments that expend fatigue life of our aircraft, and adjust future procurement and life cycle management plans accordingly.

We are presently doing that with our Hornets by optimizing our current usage on an individual aircraft basis for A-F models and extending the A-D models' service life through inspections and planned modifications. We feed that information back to the Navy Air Warfare Division for use in future decision-making processes.

Q:

Your office also oversees Air Traffic Control and Combat Identification systems as well as tactical aircraft protection systems. Can you share with readers what is new in these systems?

A:

We have many exciting things happening in Air Traffic Control and Combat Identification. Here's a brief synopsis of what is going on with different systems in that organization.

- **The Joint Precision Approach and Landing System** is GPS-based technology that will be the next generation precision landing system and will be compatible for use by all aircraft in DoD and NATO, by civil aircraft, and by the international aviation community. Never before has a single system been developed that is adaptable for multiple operating environments on land and at sea, will eliminate an interoperability gap among the Services, and will replace a multitude of currently fielded precision landing systems. The system will give the joint forces commander the capability to use any aviation asset from any operating environment during any weather conditions.
- **The Mark XIIA Mode 5 Identification Friend or Foe System** provides highly confident, accurate, secure, and continuous friendly identification and positional information of warfighting assets. The MKXIIA Mode 5 IFF System also provides positive, reliable line-of-sight identification of friendly aircraft and ships, and it is fully interoperable with systems used by our NATO allies and with the Mark X/XII Mode 4 systems used by our non-NATO allies. The MKXIIA Mode 5 IFF System will contribute information to the commander's air situation picture, help prevent fratricide during the target engagement process, and enable the safe return of friendly aircraft to their base or air-capable ship.
- **Expeditionary air traffic control systems** have been heavily employed throughout the war on terrorism. These systems are being replaced, upgraded, or over-

hauled to meet the continued operational surge. We are exploring using coordinated or common air traffic control systems with other DoD organizations, and an example is the AN/TPN-31A Air Traffic Navigation Integration Coordination System. Originally an Army-only project, it is now in production for the Marine Corps as well.

- **The Certifiable Man-Portable Tactical Air Navigation System**, which facilitates the safe and expeditious flow of air traffic during joint or combined operations in forward areas, was the subject of an urgent universal needs statement originated by the 1st Marine Expeditionary Force in Al Anbar Province, Iraq. Two available systems were immediately procured and deployed to satisfy the immediate need for the system, and an abbreviated acquisition program was initiated to procure the system in the long term.

- **National Airspace System Modernization** is a major acquisition program being coordinated by the Naval Air Systems Command with the Federal Aviation Administration, the U.S. Air Force, and the Army. The program involves upgrading every federal air traffic control facility in the United States and selected overseas sites with state-of-the-art digital radar, communications, and processor/display systems. It is a key component in enhancing the capacity of the nation's air transportation system to meet the demands of the 21st century.

Q:

How do you actively foster new and innovative technology in your programs?

A:

The team members in my programs identify capabilities needed to support the warfighter through a variety of efforts that involve interaction with fleet users, the test community, the Office of the Chief of Naval Operations resource sponsors, and others. The feedback from the interactions is used to develop roadmaps, or flight plans, that provide the basis for assessing where new technologies are needed.

As part of the larger naval aviation enterprise, PEO(T) provides an overview of the technology it needs to the Naval Aviation Enterprise Chief Technology Office, where coordinated science and technology objectives are published for the use of government labs, industry, and academia.

In simple terms, we pull technology from various sources by assessing what we need in order to provide capabilities to the warfighter. We also participate in events that enable businesses to introduce new technologies applicable to naval aviation programs, allowing us to maintain awareness of their investments in research. We see this type of activity as a technology push from researchers to

Rear Adm. W. Mark Skinner, USN

Program Executive Officer for Tactical Aircraft, U.S. Navy

Rear Adm. W. Mark Skinner graduated from the U.S. Naval Academy in June 1977, and was designated a Naval Aviator in 1979. Initial squadron tours included Patrol Squadron 23 and Patrol Squadron 31, where he served as an FRS instructor pilot.



After graduating from Test Pilot School in 1985, he reported to Force Warfare Aircraft Test Directorate where he was recognized as Directorate Test Pilot of the Year in 1986. He then served as the communications officer for the USS Ranger and as the maintenance officer for Patrol Squadron 6.

In 1992, after serving as the current operations officer for Patrol Wing 2, Skinner attended Naval Postgraduate School. He graduated as a Conrad Scholar and was awarded the Department of the Navy award for excellence in financial management and the Rear Admiral Thomas R. McClellan award for excellence in administrative sciences. He served as executive officer for Patrol Squadron 47 and subsequently took command in 1994. He then reported to Combined Task Force 72/57 as the operations officer, directing forces participating in Operations Vigilant Sentinel/Southern Watch and PRC-Taiwan Contingency Operations.

After completing the Defense Systems Management College Program Manager Course, Skinner joined Naval Force Aircraft Test Squadron as the chief test pilot and assumed command in 1998. Following command, he was selected as the program manager for a chief of naval operations special project. He then served as the acting deputy program executive officer for Air Anti-Submarine Warfare, Assault and Special Mission Programs.

In 2004, Skinner was selected to flag rank and was named commander, Naval Air Warfare Center, Weapons Division and Assistant Commander, Test and Evaluation, Naval Air Systems Command. He assumed his current position as program executive officer for Tactical Aircraft Programs in October 2007.

Skinner's awards include the Legion of Merit, Meritorious Service Medal, Navy Commendation Medal, Navy Achievement Medal, and other unit deployment citations and ribbons.

programs, and it helps us make informed decisions on how best to support the warfighter's needs

Q:

Funding for science and technology is kept relatively constant to enhance capabilities for the naval forces of today, tomorrow, and the future. To maximize return on S&T funding, a naval S&T strategic plan has been developed to focus on areas where the Navy needs to be a world leader and an early adopter of technologies. How is this focus affecting PEO(T)?

A:

By definition, the naval S&T strategic plan outlines how technology will enable future operational concepts for the Navy and the Marine Corps. Implementing S&T effectively will enable the acquisition community to look ahead to how today's requirements meet the emerging requirements of the future. Threats are constantly changing, and the use of S&T coupled with open architecture will allow the Navy to continue to grow and respond to threats in the future.

Not all S&T efforts look out 15 to 20 years. Some efforts also plan for early technology insertions into programs to fulfill current needs or respond to threats. Near-term technology insertions can reduce the cost of acquisition and product support while maintaining and improving system performance. For example, innovative propulsion technologies that have the capability to reduce ambient noise—which can affect the sailor's ability to hear or respond to verbal orders on the flight deck—can be inserted within a current production airframe using rapid technology insertion programs, thus allowing near-term benefits to the warfighter.

Naval S&T focus areas are derived from documents such as Naval Power 21 [*the Navy vision*] and the Navy's strategic plan coupled with warfare capability analysis that focuses on key elements tied to mission needs and security challenges. That is how the needs of the Navy and Marine Corps are defined.

Q:

An effort is under way to better define programs early in the acquisition process, including revising and reinstituting a policy on contractor performance assessment. What are you doing to solidify and improve relationships and communication with industry? How are things improving?

A:

The success of the program execution begins with consistent and phased definition of requirements, and the maturation of technologies that lead to disciplined development and production of systems providing increasing capabilities. I require my program managers to collaborate with the users, testers, and industry. As we work together with

**As we work together
with industry in providing
capabilities, we provide
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assessment reports and contractor
performance assessment reports.**

industry in providing capabilities, we provide meaningful feedback through the use of interim performance assessment reports and contractor performance assessment reports. Industry takes this feedback very seriously because we use it in our competitive source selections as an evaluation factor for award.

I also encourage my program managers and their teams to meet regularly with their industry counterparts. At my level, we use EXCOMMs, or executive-level meetings, held at a regular drumbeat. The EXCOMM serves as a venue to tee up and understand the issues. More important, it provides a forum so programs can ask for any help they may need. The EXCOMM process works, as evidenced by the successes of EA-18G, E-2D, and ICAP III aircrafts, among others.

Q:

Rapid acquisition continues to be an area of emphasis for DoD. Specific acquisition policies emphasize rapid deployment capability and rapid acquisition processing. In your programs, how are you capturing this need for rapid turnaround and fielding? How does it affect the workload balance?

A:

The war on terrorism has generated rapidly evolving military needs that require responsive materiel solutions. The rapid-deployment capability (RDC) acquisition process provides for rapid acquisition of known products, domestic and foreign, that can provide urgently needed capabilities. In cases in which no known product meets the need, rapid development, integration, and testing of a new prototype solution are often required.

For example, one of our RDC effects is directed at countering man-portable air defense systems, which are surface-to-air missiles that use infrared technology to track

targets and can strike low-flying aircraft. Currently, there are approximately 700,000 man-portable air defense systems deployed worldwide, and there's a threat of terrorists using them against U.S. aircraft. What's more, the sophistication and proliferation of infrared missiles have dramatically increased, allowing for greater infrared targeting capabilities. Without infrared countermeasure capabilities, the tactical survivability of our nation's current generation aircraft is at substantial risk.

In 2005, the Tactical Aircraft Protection Systems of PEO(T) initiated the Navy Directional Infrared Counter Measures



Program (LAIRCM). Rather than starting from scratch, we leveraged the U.S. Air Force's LAIRCM program, which is currently in full-rate production. Using RDC processes, we initiated an initial purchase of hardware to support early operational capability of LAIRCM systems on Marine Corps helicopters. We are now performing a quick-reaction analysis on an infrared-based sensor that will provide even greater operational capability over current ultraviolet systems. Of course, these efforts place demands on an already stressed workforce. Over time, we must examine our staffing distribution and adjust accordingly.

Q:

Top honors were given to the E-2D Advanced Hawkeye program by Aviation Week and Space Technology magazine in March, with the E-2D Advanced Hawkeye team receiving a 2008 Laureate award. Can you talk about what made this program such a notable achievement? Also, what advantages will the E-2D provide to the warfighter?

A:

The E-2 Hawkeye, which is an early warning and command and control aircraft, has seen its mission greatly expanded over the 40-plus years it has existed, and the aircraft's capabilities have been incrementally improved to stay ahead of current threats. In August 2007, the E-2D Advanced Hawkeye performed its first flight—four years earlier than it was expected to reach the skies. Today, there are two E-2Ds in flight test and three on the production line. The E-2D continues the Navy's integrated warfighting legacy by providing broad area coverage resulting in a broader-range capability. With the E-2D's enhanced ability to work in littoral and land-based environments, the platform provides a critical capability to protect our nation's interests.

The E-2D features state-of-the-art radar with a two-generation leap in capability and upgraded aircraft systems that will improve supportability and increase readiness. The new rotodome contains a critically important, continuous, 360-degree scanning capability, while adding an electronically scanned array system. That system allows operators to focus the radar on selected areas of interest. It can detect smaller targets at greater ranges than the E-2C. The new glass cockpit, with 17-inch liquid crystal display panels, provides the co-pilot with the ability to become a fourth tactical operator when not actively engaged in flying the aircraft. This allows the five-person crew more flexibility in fulfilling its diverse missions.

Beyond the battle group, the E-2D's command and control capability makes it a multi-mission platform through its ability to coordinate concurrent missions that may arise during a single flight: airborne strike, land force support, rescue operations, managing a reliable communications network between widely dispersed nodes, and support for drug interdiction operations.

What has impressed me most about the Advanced Hawkeye team is their ability to actively manage their program. Using a unique predictive earned value management model coupled with weekly earned value management status meetings with their prime contractor, the program has lowered its estimate at completion, as verified by the Naval Air Systems Command cost-estimating competency, by close to \$100 million.

Q:

Managing an aircraft program includes remaining vigilant to avoid a Nunn-McCurdy breach—a cost overrun that would trigger a lengthy review and program restructuring. Can you remark on any lessons learned you have about such breaches and how one can avoid problems?

A:

To help programs become successful, we establish a comprehensive technical baseline, a realistic schedule, and an independent cost estimate at the program's inception.

Once a program has begun, we actively manage it by using earned value management tools to monitor program cost and schedule performance. Some lessons learned demonstrate that program breaches often result from a failure to maintain full and stable funding and/or technical configuration control, so we try to learn from past lessons and change the way we do business.

Q:

The Navy enterprise framework is being developed to increase efficiency and maximize the return on naval acquisition investments. Can you comment on how this initiative can improve acquisition processes?

A:

The Navy enterprise framework will enable execution of the Navy's strategy by delivering required readiness and capabilities at best value. The enterprise approach is characterized by collaboration and transparency among key process stakeholders. Outputs are clearly defined and the results are metric-driven.

As the PEO(T), I am ensuring early and aggressive action to improve processes and provide better services to the American taxpayer. To do so, my program managers are focused on cultivating a stable acquisition environment by improving early definition of programs and responsible bidding by contractors through proper incentives. We are reviewing the entire acquisition process from cradle to grave, from statutory governance to cultural change. Everything is on the table, and everything should be considered for improvement.

Q:

Thank you for your time, Rear Adm. Skinner.

Paving the Way for Testing in a Joint Environment

The Capability Test Methodology

Chris DiPetto



As DoD moves away from traditional single-system approaches to new joint capability-based approaches, the department must demonstrate that its future weapons integrate seamlessly into systems of systems and capabilities in complex battlespace environments to produce coordinated and focused effects.

The very nature of modern warfare necessitates major changes to the way the Department of Defense tests and acquires systems and capabilities. Since most systems today are deployed in joint environments, the testing of a system by a single Service may not be adequate to demonstrate that the system meets the warfighter's needs. Future systems, which are expected to operate in a joint environment, should be tested in a realistic joint environment throughout the acquisition life cycle, starting with early experimentation and concept development through the developmental and operational test. The result is an optimally integrated system.

DoD needs to ensure that it is testing systems, systems of systems (SoS), and capabilities consistent with their intended use. In other words, we test, as well as train, like we

fight. The warfighter should be confident the systems work as advertised, and the tester must be challenged to deliver the future joint capabilities needed by the warfighter.

A New Roadmap

Changes in testing and acquisition processes are under way to make this happen. DoD instructions acknowledge the need to test joint capabilities in the expected joint operational environment. The Joint Capabilities Integration and Development System (JCIDS) is applying capabilities-based approaches to transform the way the DoD defines requirements for new systems and capabilities by moving materiel developers and testers away from the Service-centric system requirements of the past and toward the

necessary joint-centric capability development for future systems. In November 2004, in response to strategic planning guidance direction to provide new testing capabilities and institutionalize the evaluation of joint system effectiveness as part of new capabilities-based processes, then-Deputy Secretary of Defense Paul Wolfowitz approved the Testing in a Joint Environment Roadmap, developed by the DoD director of operational test and evaluation. The roadmap calls for actions that establish a framework for the life cycle evaluation of systems and SoS in a joint

DiPetto is the deputy director for developmental test and evaluation in the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics. He has more than 28 years of experience in DoD and is Level III certified in T&E. He is a graduate of the U.S. Navy Test Pilot School and the Defense Systems Management College's Program Management Course, and is a 1994 Harvard Kennedy School of Government Senior Executive Fellow.

operational environment beginning with the JCIDS process. Implementation of the roadmap focuses on three elements—policy, infrastructure networks and middleware, and methods and processes—while recognizing the important role of the Services and agencies in the execution. The purpose of the roadmap is to coordinate and synchronize the sometimes disparate Service and agency testing efforts by capitalizing on existing Service test assets, forming an approach to joint testing that will ensure systems and capabilities function as intended when integrated into the joint mission environment.

As individual platforms become part of a complex, networked SoS that must work effectively in a joint battlespace, effective test and evaluation is becoming more difficult. In the future, programs expected to operate in a joint environment should demonstrate their joint capability early and throughout their developmental cycles, regardless of the program's acquisition category. The objective of the roadmap is to address these challenges and define changes that will position test capabilities to fully support adequate test and evaluation of warfighting capabilities developed under DoD's capabilities-based processes in the appropriate joint mission environment.

The joint mission environment provides the operational context in which the capability being developed must perform. Important aspects of this operational context include joint mission, task, threat condition, environmental condition, and system or SoS descriptions of capabilities supporting the joint mission. The joint mission environment is realized when all relevant aspects of the joint operational context are adequately represented in an environment ready for a test that may be live, virtual, and/or constructive and distributed in nature.

The Test Resource Management Center, established as a field activity reporting to the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, is chartered to be the steward of DoD test and evaluation infrastructure. In that capacity TRMC is responsible for the Joint Mission Environment Test Capability Program to help establish a DoD-wide live, virtual, constructive distributed environment (LVC-DE). To date, JMETC has laid the groundwork for an enterprise-level solution to testing infrastructure and has enabled that infrastructure to be assembled more quickly than in the past. Even with an effective infrastructure in place, there is also a need for policy changes and new methods and processes to make valid testing in a joint mission environment a reality.

The Methods and Processes

Traditional methodologies for developing and testing military systems expected to operate in a joint environment—particularly verifying specification compliance for individual systems and testing within a single Service environment—will fail to fully describe real joint capabili-

ties. As DoD moves away from traditional single-system approaches to new joint capability-based approaches, the department must demonstrate that its future weapons integrate seamlessly into SoS and capabilities in complex battlespace environments to produce coordinated and focused effects. In addition, doctrine, organization, training, leadership, personnel, and facility aspects of these new capabilities along with materiel needs must be addressed early in the development process. DoD's long-term strategy calls for evaluations of joint systems effectiveness throughout all phases of a capability's development and deployment. As I mentioned before, we want to be able to test as we fight.

The challenge of testing in a joint mission environment begins early in the system acquisition life cycle; and it is daunting considering the number of systems, network combinations and interactions, environmental conditions, and non-materiel aspects that must be addressed for a realistic test. How much testing and data are sufficient? Must every possible combination of environmental conditions, modes of operation, systems, and entities within the joint mission environment be exercised? Replicating a realistic joint environment will be very challenging because the ability to assemble all required assets at a single test location will be nearly impossible because of scheduling constraints and resource availability. How much of this environment needs to be available for developmental testing and how much is required for operational testing? How can a realistic joint environment be constructed to enable it to meet both developmental and operational test objectives? What kinds of tests can be done during developmental testing to reduce the risk of uncovering new system deficiencies during operational testing?

To address some of these challenges as part of the larger roadmap effort, the director of operational test and evaluation chartered the Joint Test and Evaluation Methodology project in 2006. Specifically, JTEM was directed to develop, test, and evaluate methods and processes for defining and using an LVC-DE joint test environment to evaluate system performance and joint mission effectiveness.

JTEM has developed the capability test methodology, which is a collection of recommended best practices for designing a test of a system or SoS in a complex joint environment. The CTM provides a rational process that guides the program manager and test manager through the test planning process to tailor and optimize a test to demonstrate system performance within a joint context as well as system contribution to joint capabilities. It is a foundation for a series of guides, handbooks, and training courses that will ultimately be delivered to test organizations and acquisition PMs. The CTM is intended to:

- Address testing of systems, SoS, and capabilities, be they Service or joint
- Augment existing DoD and Service test processes

- Align test and evaluation aspects and information across multiple DoD processes, namely Analytic Agenda, JCIDS, DoD Architecture Framework, and the Defense Acquisition System
- Provide recommended best practices for a consistent approach to describing, building, and using an appropriate representation of a particular joint mission environment across the acquisition life cycle
- Reflect current acquisition policies and instructions, and eventually be incorporated into Defense Acquisition University PM and test and evaluation courses.



The capability test methodology is addressing the ways and means for designing and executing tests of complex, networked SoS in a realistic joint mission environment through its newly developed and enhanced methods and processes.

The CTM is designed to augment, not replace, existing test methods and processes, taking into account the unique aspects of testing joint, networked systems in an LVC-DE. As such, the CTM closely parallels existing test processes used within DoD. The CTM consists of six steps and 14 processes, which are briefly described in the following paragraphs.

The CTM Steps

Step 0 defines the test evaluation strategy. The key process in this step is describing the Joint Operational Context for Test used to define the specific elements that make up the LVC-DE. The Joint Operational Context for Test includes a detailed description of the system under test, supporting systems, the expected operating environment, threat forces, and key system interactions and information exchanges required to complete a particular task or mission. In step 1, the PM creates a program introduction document, which outlines the details of a particular test or set of tests, communicating requirements to a test range. The test range then uses that document to produce a statement of capability, which is the starting point for determining what resources will be used to conduct the test and what data will be collected. Step 2 produces distributed test plans that are compilations of current individual test plans, with the addition of distributed and joint elements. During this test planning phase, early test concepts are developed into more detailed test plans. Test planning processes include test trial/vignette selection, refining the live, virtual, constructive distributed test environment required and synthesizing these activities into a test plan.

During CTM steps 3, 4, and 5, joint mission environments are assembled and used to support multiple test plans. Step 3 is concerned with technical systems engineering activities for automatic distributed LVC-DE implementa-

tion. These processes include the design of distributed configurations, the assembly of distributed components, and the integration of components into a distributed test range that meets customer requirements. In CTM step 4, distributed tests are conducted according to local procedures and data are collected. This phase produces test data for customers and reusable information for future joint mission environments. Though joint mission environments are assembled to support multiple customers, tests are not required to run concurrently. Sometimes individual customers may separately schedule only those parts of the joint mission environment they need to meet their own objectives for testing in a joint environment. Other times, multiple customers may share a joint mission environment at the same time for convenience or other reasons. In step 5, data sets are processed, analyzed, and evaluated (including evaluations of joint mission effectiveness and contributions of individual systems to joint missions).

Supporting Measures Framework

In addition to the CTM, JTEM has developed a supporting measures framework that establishes appropriate measures to support the evaluation of a system or SoS within a capabilities context. This framework is based on the JCIDS definition of a capability: "The ability to achieve a desired effect under specified standards and conditions through a combination of ways and means to perform a set of tasks." Measures of effectiveness are established at the mission level and based on combatant commander-desired joint mission effects. The joint mission effects are documented through a compilation of products that make up the Analytic Agenda, which is a DoD-wide frame-

work for analyzing force structure requirements and other analytic studies. The products used to document desired effects include the defense planning scenarios, which are a series of scenarios that describe the range of military operations for which combatant commanders must be prepared, along with the operating forces and threats described in the multi-Service force deployment database and the current year and future year analytical baselines. The desired effects must be achieved under specified standards and conditions using systems; SoS; and the supporting doctrine, organization, training, leadership, personnel, and facility aspects, which make up the combinations of ways and means.

The systems and SoS have various performance attributes associated with them (e.g., launch range of an aircraft or time to disseminate information to the battlefield from a higher echelon headquarters), and they are ultimately are used to perform a set of joint tasks that achieve the joint mission desired effects. In the measures framework, measures of performance are used to describe the overall performance desired for each particular task. The joint tasks are described through the Universal Joint Task List and the Joint Mission Essential Task List, along with the specified standards and conditions. The Universal Joint Task List and the Joint Mission Essential Task List also have corresponding Service task lists that support them. Although mission measures of effectiveness will be difficult to capture directly during tests in a joint environment, the task-level measures of performance and the system and SoS attributes can be readily measured. Analysis and combat modeling can then be used to determine overall measures of effectiveness for the joint mission desired effects.

Testing in a Realistic Environment

The CTM is addressing the ways and means for designing and executing tests of complex, networked SoS in a realistic joint mission environment through its newly developed and enhanced methods and processes. During their 2007 test event, JTEM demonstrated application of the CTM to a notional set of network-enabled air- and ground-launched weapon systems while employed in a joint mission environment supporting a joint fire support task. This test showed the potential that can be realized from testing networked SoS in a realistic operational environment. However, it also revealed many challenges, which fall into the categories of:

- Agreed-to measures of performance and effectiveness across multiple joint missions
- Persistence of the test environment used for testing
- Analysis and data management techniques to deal with the increasing complexity of planning tests and evaluating the results of tests in net-centric systems.

JTEM continues to address these issues. In this year's test event, the CTM's effectiveness and suitability for use in a

complex joint test environment was again assessed using the Army's Combined Test Organization for Future Combat Systems' Joint Battlespace Dynamic Deconfliction event as a joint capability test event. This venue provided the opportunity to identify the challenges in integrating the end-to-end CTM into existing test activity, developing and maturing the LVC distributed prototype, investigating data-requirements issues, analyzing deficiencies in the joint mission environment representation requirements, and assessing the LVC distributed environment instantiation of the joint mission environment. Test event results are driving improvements to the CTM and will provide an opportunity to gain a better understanding of what it takes to fully realize a sufficient capability to test in a joint environment across DoD. In April 2009, JTEM will deliver a version of the CTM, along with guides, handbooks, and additional supporting documents, which will prepare PM and test organization customers to effectively test as the capabilities-based approach to acquisition requires.

Continuous Learning Available

Additional work has been accomplished to facilitate our future testing needs. The Defense Acquisition University and JTEM have partnered to develop a Testing in a Joint Environment continuous learning module, now available on the DAU Web site <<http://clc.dau.mil/>>. The module's goal is to familiarize DoD personnel with basic principles and practices related to testing in a joint environment. This three-hour credit course will enable capability managers, PMs, requirements managers, systems engineers, test and evaluation professionals, acquisition professionals, and warfighters to:

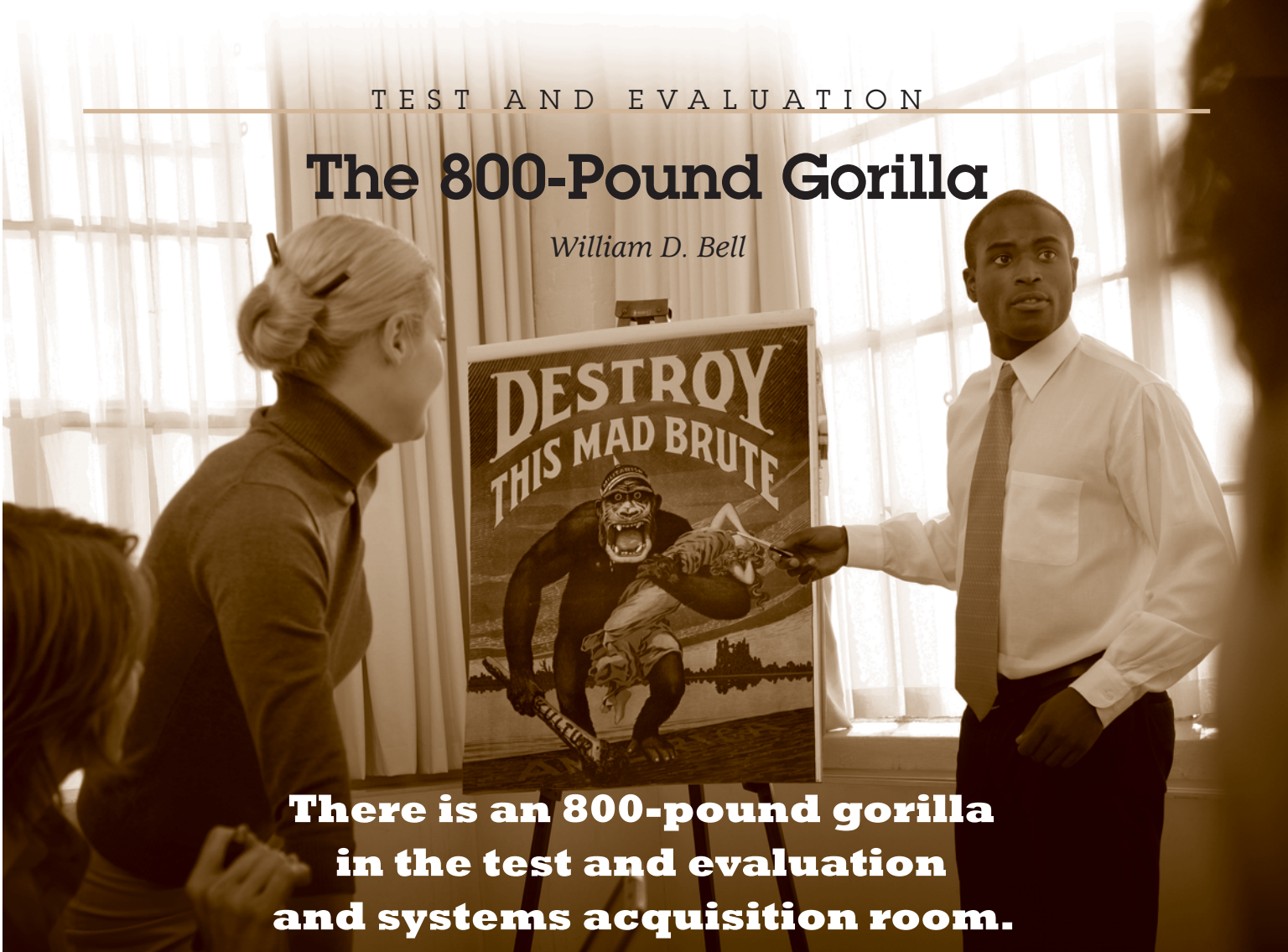
- Recognize the need for testing in a joint environment
- Describe the key DoD-level concepts that support testing in a joint environment
- Describe the generalized methodology for testing in a joint environment
- Define the structured approach for identifying measures that support testing in a joint environment
- Recognize the features of the joint mission environment.

The future of testing in a joint environment has many challenges and many exciting opportunities. Through the work of the Testing in a Joint Environment Roadmap and the efforts of all in the testing and acquisition communities, the challenges will be met and the opportunities will be exploited. This collective effort will enable us to test like we fight and deliver the future joint capabilities needed by the warfighter.

Comments or questions? Please go to <www.acq.osd.mil/sse/dte/>.

The 800-Pound Gorilla

William D. Bell



**There is an 800-pound gorilla
in the test and evaluation
and systems acquisition room.**

There is an 800-pound gorilla in the test and evaluation and systems acquisition room. This gorilla is rarely acknowledged, sometimes fed and patted, but most often ignored. He has been on the prowl for decades, and it is well past time to lock him up in the zoo. What is this so-called gorilla? It will be revealed in a moment, but first, a little background and perspective.

The Problem of Declining Success Rates

At the annual International Test and Evaluation Association Symposium in November 2007, numerous speakers alluded to the fact that in recent years, about half of all systems undergoing initial operational test and evaluation are at least partially not suitable or not effective, or both. A successful IOT&E is necessary for approval of full-rate production of a new system. In prior years, the IOT&E success rate certainly has varied, but overall has hovered at the 20-percent level of either partially or totally not suitable or not effective. At the symposium, Dr. Dave Castellano, deputy director for assessments and support,

Office of the Deputy Under Secretary of Defense for Acquisition and Technology, reported that over the past 10 years, Department of Defense systems have experienced a 33 percent cost growth as a result of research, development, test, and evaluation mistakes.

With all the modern day emphasis on systems engineering, why is DoD experiencing a downturn in IOT&E success? Is it due to the testers; the acquisition program management offices; or that darn gorilla, which is the typically poor or strained relationship between PMOs and testers.

The Gorilla—The PM/Tester Tussle

Have you ever been a part of a systems acquisition program office? If so, you know it involves high stress and a fast tempo. Often, a new capability is needed especially quickly. After all, we are under wartime pressures. Further exacerbating the situation, DoD acts as though it believes that it requires state-of-the-art technology to win a war—not always stated, but usually assumed. Add to this

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- A clear definition and explanation of each PBL design, development, and implementation process step
- The expected output of each process step
- Access to relevant references, tools, policy/guidance, learning materials, templates, and examples to support each step of the process.

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- Initiate and participate in discussion threads
- Ask questions and obtain help
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You'll find it at < <https://acc.dau.mil/pbltoolkit> > .

a program manager whose promotions or other career-enhancing changes depend on his or her program—or baby, if you will—successfully being developed or at least being relatively problem-free during the next two or three years. Then into the middle of this stress-soup comes a test and evaluation professional (a tester) who says the program did not have a successful test—the equivalent of saying a PM's baby is ugly. Furthermore, the PM likely perceives that the tester is wasting precious time and money performing tests to show that the baby is or may be ugly!

Know any testers? They have for too long been the Rodney Dangerfields—the comedian known for his “I don't get no respect” phrase—of the engineering community. Why? There are at least two reasons. First, in the 1960s, 1970s, and 1980s, the test group was where engineers were sent to await their retirement. Now those folks were not usually the majority of the group, but the perception that some testers were biding their time rather than being seriously engaged tainted the image of all testers.

The second reason is bullying by program offices. Testers need system requirements and specifications to use to build their test plans. The PMs, who are the keepers of those documents and keepers of the money, did not want the testers involved until the very last moment—if ever—thus diminishing the modicum of respect testers might have otherwise received. Knowing that the PM did not think they were worth their cost, testers were—by golly!—going to show that darn PM that they could find lots of problems that needed fixing. Those are problems they would have found anyway, but when using those problems as a get-even ploy, the tester becomes an unhelpful pain until the problem is fixed.

So given this history—which is actually even more contentious, but you are being spared the gore—it is no surprise that the relationship between PMOs and testers is strained. Yet these two communities have been dueling for decades, and this strained relationship does not explain the recently degenerating IOT&E situation. In fact, there are many contributors to the recent decline in IOT&E results, and the PMOs and testers are uniquely qualified to turn this tide—but this can only happen if there is an end to the distrust and the beginning of trust and mutual respect.

Complex Systems Need Good Relationships

In a nutshell, system complexity, not the gorilla, is the ultimate culprit behind the decline in IOT&E results. Folks tout budget constraints, schedule pressures, incompetent engineers, slippery contractors, and so forth, but the root cause is the complexity of new and proposed systems; not just the systems themselves, but the environment in which they must perform. This is especially true as we try to benefit by applying new communication, computing,

and Internet technologies to our new systems. Network-centricity provides unparalleled capabilities to warfighters, but at the cost of added complexity.

That complexity is challenging the cognitive capabilities of many U.S. military operators. Such systems may be able to pass specification verification, but when operators try to use them effectively in harsh environments—both physically harsh environments and those induced by the fog of war or the fog of competition—the systems are not effective or suitable. So while complexity of systems has increased, the relationship between PMOs and testers has not changed.

Why Relationships Matter

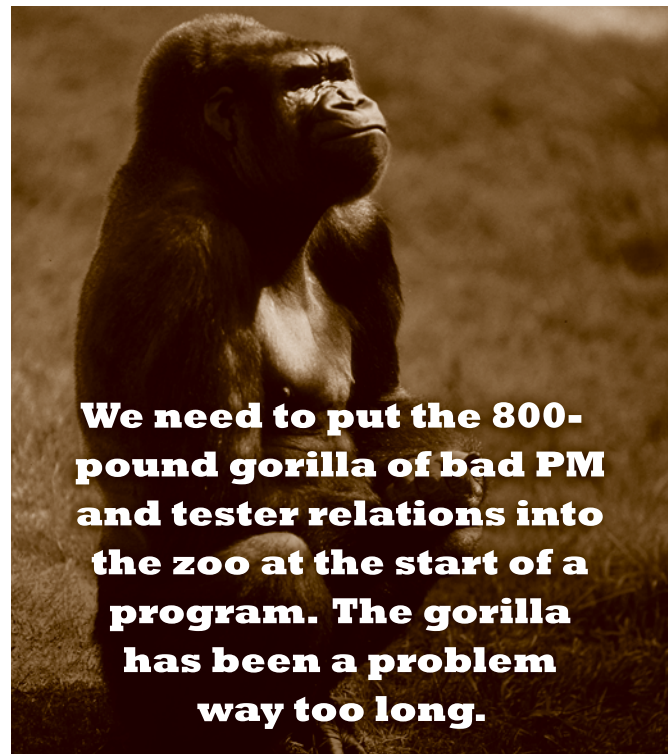
It is hard to imagine the specifics of the requirements in a complex system. It is difficult to get the requirements stated in a succinct and understandable way. It is impossible to develop appropriate specifications from poorly written requirements. The more complex a system, the greater are the opportunities for human error. From the definition of the need; to the requirements decomposition; to the building, coding, and integration, the difficulty skyrockets. The increased complexity causes more requirements, more applications, more environments, more failure modes, and increased sustainability challenges. In this environment, there is no time for Hatfield-McCoy feud-like behavior (meaning the famous 19th century U.S. family feud). Testers and PMs have to pull together.

Before the late 1990s, when government-staffed PMOs had significant roles in the design and development of systems, PMOs could tell the end users that their requirements were unreasonable. Now contractors, who are the system developers or lead system integrators, would never do that because there is another contractor right around the corner who will say that he can do it and will thus win the contract. Therefore, almost every user requirement gets placed on a developing system without a good reality check. Engineers, scientists, and managers are guessing on feasibility, methods, and resources until well into the development effort, when it is often too late and too expensive for significant changes. If you've ever underestimated your needs in a home project, you'll agree with me that it is human nature to underestimate, so developments almost always overrun resources. However, guessing can also cause designs and developed systems to be cumbersome, inadequate, or even wrong for the requirements. Such systems will fail to be effective or suitable in IOT&E.

When Teamwork Happens

Here is what can and often does happen when testers and PMs work as one group from the very beginning of the acquisition process:

- Requirements that are beyond the state of the art for field deployable systems are questioned and elimi-



We need to put the 800-pound gorilla of bad PM and tester relations into the zoo at the start of a program. The gorilla has been a problem way too long.

nated. PMs often hear from their potential prime contractors that something can be done. The contractor is afraid of losing business if he says otherwise. Naturally, PMs are hoping for the positive answer, but testers are accustomed to challenging and questioning things. Working together, the PM and tester can sort out truth from fiction.

- The requirements are stated in a way that will ultimately be verifiable. The tester will make sure of this because he has to provide the test to support this verification.
- A verifiable requirement is also one from which a verifiable specification can be written.
- Verifiable requirements and specifications are readily understood—i.e., are not susceptible to misinterpretation during the requirements flow-down process.
- Appropriate testing-related schedule, budget, infrastructure, other resources, and personnel are planned early and become a part of such documents as the test and evaluation master plan (TEMP), the request for proposal (RFP), the initial capabilities document (ICD), and the systems engineering master plan (SEMP).
- Contractors can be prevented from under- or over-bidding the test and evaluation part of their proposal because testers, as a respected part of the proposal evaluation team, can assure test realism in the proposal, or at least in the negotiations.
- Testers can help make the system integration lab a useful preparatory time and place for systems testing.
- Testers can encourage and double check that proper reliability growth testing is planned and executed—which is a big contributor to successful IOT&E.

- PMO testers—when they exist—make the best interface to the independent operational testers in terms of communication between the IOT&E executors and the program office.
- Testers can plan and execute developmental test and evaluation thoroughly enough so as to virtually assure success in IOT&E. This is especially valuable in suitability and interoperability issues. The PMO testers learn what the independent IOT&E testers are planning and dry-run those tests to see how the system performs. Thus, the PM has an excellent idea that his or her system will pass IOT&E before turning over the system for IOT&E.
- PMOs—after a small initial investment—save huge sums of money and significant schedule reductions compared to the status quo.

These items explain why Charles McQueary, director of operational test and evaluation, and John Young, under secretary of defense for acquisition, technology and logistics, signed a joint memo Dec. 22, 2007. The memo states that test and evaluation “expertise must be brought to bear at the beginning of the system life cycle to provide earlier learning about the strengths and weaknesses of the system under development.”

Locking Up the Gorilla

We need to put the 800-pound gorilla of bad PM and tester relations into the zoo at the start of a program. The gorilla has been a problem way too long.



The solution to this problem starts with mutual respect. For example, testers must acknowledge the pressure and constraints under which PMs work. Testers must be timely, helpful, and truthful. Instead of believing that a test is not successful if they cannot find a wart on the baby, testers must be the bearer of good news whenever it is appropriate. Testers should be willing to suggest workable solutions to found problems.

On the other hand, PMs and their PMOs have to start taking the long-term or enterprise view. That is, it is not OK for a PM to delay the discovery of technical, schedule, or budget problems until the office has no choice but to acknowledge such problems. PMs need to be rewarded for solving problems, not for postponing the discovery of problems. An enterprise view will look for the best solution for the warfighter, not just the cost and schedule concerns of the PMO. Also, PMs must recognize that testers are just as savvy and just as concerned about a program's success as they are, and PMs must treat them as partners in that success. Therefore, PMs must value testers' input and perspectives—and should not shoot the messenger! After all, the messenger may have good or at least useful news! Testers provide knowledge, and a recent Government Accountability Office report on weapon system acquisition cites lack of knowledge as a major problem with defense acquisition programs.

Some of you may recognize that the solution to the problem of unsuccessful IOT&E, in this age of complex systems, could be described as the implementation of an integrated product team as envisioned when IPTs were first invented and not as they exist today. When IPTs were first invented, they contained valued members from the specialty and testing engineering communities. These folks had both the responsibility and authority to make sure the disciplines they represented were considered and included in the design process. Today's IPTs often downplay and marginalize these disciplines. This construct—again as originally created—would institutionalize (that is make it the norm) the respected and valued involvement of testers and many other minimalized engineering specialists.

The United States is at war, and the warfighters have immediate needs that include new and complex systems to accomplish their mission while staying safe. The aim of this article is for folks to see a solution to a serious problem that hampers the successful creation of such systems. With an attitude change from disdain to mutual respect, the talented combined teams of PMOs with testers can meet the challenge of defining and developing complex systems.

The author welcomes comments and questions and can be contacted at wbell@mitre.org.

The Changin' Program and Business Financial Manager Roles

Richard K. Sylvester

To borrow a line from singer-songwriter Bob Dylan, "The times, they are a-changin'," and so are the roles of some key people in the acquisition community—specifically the program manager and the business financial manager.

A major change is the military equipment valuation and accountability (MEVA) initiative, which is an ongoing Department of Defense-wide effort to establish and maintain accurate and relevant financial accountability for the department's military equipment. It is critically important to understand the cost basis for military equipment so DoD knows how much the taxpayer has already invested and where new investments are needed to respond to current and emerging requirements. Capturing this information requires a significant transformation from how DoD has done business in the past. The success of the department's efforts begins with and depends heavily upon its program and business financial managers.

The MEVA initiative established an initial baseline for military equipment values at the end of fiscal year 2006. Actual values were determined whenever possible, and an average cost methodology using budgetary appropria-

tions was used to ascribe value to items of equipment. But this was only the beginning of the effort required to comply with changing laws and regulations for the financial accounting for military equipment. Since establishment of the baseline, new rules have been developed for the proper financial accounting treatment for military equipment and for determining the full cost of each item. DoD is moving toward obligation-based valuations and is beginning to use actual line item contract values for asset valuations. An item-unique identification registry has been established to provide enterprise-level documentation of life cycle events for each asset. Continued spiral development of the Capital Asset Management System—Military Equipment has provided additional capabilities for recording and managing military equipment assets. To learn more about these and other changes to the military equipment valuation initiative, go to the MEVA Web site, < www.acq.osd.mil/me/ > .

New Way of Doing Business

These changes place new responsibilities on the program manager and the business financial manager in the program management office to enable proper visibility, oversight, and execution of all financial management and accountability requirements for the property managed by the program. These responsibilities include structuring purchase orders that allow accurate cost accounting; maintaining documentation to support audits; identifying useful lives for equipment and keeping that useful life current as mission profiles change; and managing asset

existence over equipment life cycles. These new responsibilities are neither temporary nor a one-time requirement; they are permanent and require changes to the ways the program manager does business. The objective of the new requirements is to improve the accuracy and fidelity of the valuation of each item of military equipment. This, in turn, will better enable the



The success of the department's efforts begins with and depends heavily upon its program and business financial managers.

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department to achieve its goal of audit readiness at the enterprise level and will provide better information to DoD senior decision makers, particularly regarding asset visibility and useful life.

The Program Manager's Role

The program manager for any program, project, product, or system that has planned deliverables of military equipment meeting the capitalization threshold (currently \$100,000) is already required to prepare a detailed program description as part of the acquisition strategy at Milestone C or any other decision point that leads to production or procurement of end items to be used for operations. This program description should identify:

- All items within the level 2 work-breakdown structure groups (the major subordinate elements of work necessary to execute the program) that meet or exceed the current capitalization thresholds
- Government-furnished materials that are included as a component part of the end item
- Other separate deliverables that accompany an end item when it is procured (such as manuals and technical documents)
- All other deliverables that are bought with program money (such as initial spares, item-peculiar support equipment, special tools and test equipment) that cannot be directly attributed to a specific end item.

New language that will be added to DoD Instruction 5000.2, *Operation of the Defense Acquisition System*, directly and succinctly codifies new responsibilities for the program manager. Changes to DoDI 5000.2 state, in part, that throughout production and deployment, the life cycle manager, who in most cases is also the program manager, shall ensure that all deliverable equipment requiring capitalization is serially identified and valued at full cost and that the full cost of each item of equipment is entered into the item-unique identification registry. It specifies all proposals, solicitations, contracts, and/or orders for deliverable equipment be structured to segregate each type of equipment based on its respective financial treatment and that procedures be established to track all equipment items throughout their life cycle. Finally, and this is a biggie, it requires that the status of items added, retired from operational use, or transferred from one component to another be updated quarterly throughout its useful life.

Modifications to items of equipment are also treated differently. When equipment undergoes modifications that substantially increase capability, extend useful life, or result in a change to type/series identification, the process described above starts over again. Modifications are capitalized, identified, and valued at full cost. Proposals, solicitations, contracts, and delivery orders are structured to ensure proper financial accounting. And the status of the modified equipment is updated quarterly over its useful life.

New Laws and Regulations

These changes reflect the requirements of the provisions of law and financial management regulations with which the department must comply. The Chief Financial Officers Act of 1990 established the annual requirement for each executive agency to submit a financial statement for the preceding fiscal year to the director of the Office of Management and Budget. The Federal Financial Management Act of 1996 then required each agency to implement and maintain financial management systems that comply with federal financial management system requirements, applicable federal accounting standards, and the U.S. Government Standard General Ledger at the transaction level. Statement of Federal Financial Accounting Standard No. 23, published in 2003, eliminated *National Defense Property, Plant, and Equipment* as a category, with the effect that military equipment was put into the same category as general plant, property, and equipment. This also made military equipment subject to the provisions of Statement of Federal Financial Accounting Standard No. 6, which outlines the federal accounting rules for accounting for all property, plant, and equipment. Specifically, each item of military equipment now has to be valued, capitalized, and depreciated over its useful life based on expenditures, at full cost, with assets identified and managed across their life cycle with adequate internal controls.

The quarterly update on the status of all end items for which the program is responsible is essential to meeting these requirements and reporting accurate financial information. These updates continue throughout the useful life of the items, even if/when the responsibility for the items is transferred from the program office to a life cycle or end item manager in the logistics community.

Program managers can find out more on the MEVA Web site. Program managers can also learn more from the Defense Acquisition University's recently developed comprehensive course on the fiscal and physical accountability and management of DoD equipment. The course will give program managers a better understanding of and appreciation for the complementary aspects of fiscal and physical accountability and their importance to the institutionalization of better business practices within the department.

The Business Financial Manager's Role

To enable a more accurate determination of the value of military equipment, every military equipment end item included in the program description must be uniquely identified. Military equipment line items are now required to be itemized on every purchase requisition so the contracting officer may identify them as a separate contract line item or sub-contract line item on the solicitations and contracts.



**The business financial manager
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equipment.**

This means that the business financial manager now has more work to do upon receipt of a request for new procurement of military equipment. The business financial manager must collaborate closely with the program manager to ensure that the military equipment program description facilitates the proper determination of the applicable type of asset or expense and the proper financial treatment of each item in the program description.

The business financial manager is responsible for assigning the asset or expense type for each item. These types include military equipment; real property; operating material and supplies; internal-use software; and other general plant, property, and equipment. The business financial manager also identifies the appropriate category of financial treatment for each line item. Line items may be identified as assets to be capitalized, assets to be held for inventory, or assets to be expensed.

Having assigned the asset and expense type to each item, the business financial manager is then responsible for developing the appropriate purchase requisitions. The line items on these requisitions must be separated based upon the type of requested deliverable.

The business financial manager next collaborates, as needed, with contracting officers to ensure the integrity of the line-item structure of the purchase requisition is carried forward when solicitations are written, proposals are received, and contracts are awarded.

These new requirements place a heavier burden on DoD's business financial managers. To assist them in learning more about their responsibilities and how to meet these requirements, the Defense Acquisition University has developed online training support for the business financial

manager. The comprehensive training course provides an overview of the proper financial accounting treatment for military equipment, detailed information on the overarching procurement business process changes, and examples and discussions of the different roles of the acquisition community in facilitating proper financial accounting treatment for military equipment. The course also defines military equipment, allowing the business financial manager to distinguish between capitalizable vs. non-capitalizable equipment and explains asset categories for financial reporting and their applicable accounting treatment.

There is also a business financial manager quick reference tool available on the

MEVA Web site, located at < www.acq.osd.mil/me/bfma_instructions.html > . This tool provides guidance for proper the treatment of new procurements, modifications, service life extension plans, and upgrades to military equipment. It also provides guidance to assist with determination of asset categories and how to categorize assets by line item on purchase requisitions.

The line-item structure is absolutely critical to the successful differentiation of program costs. Without that prescribed level of detail, it is impossible to achieve the proper financial accounting treatment for military equipment.

A Stronger Financial Overview

It is important to understand the cost basis for military equipment so DoD knows how much the taxpayer has already invested, and more importantly, to support requests for new investments needed to ensure the department can respond to current and emerging requirements. Better information enables decision makers to know what investments must be made in the future to support servicemembers and to defend those investment decisions to Congress and the taxpayer. It increases credibility and fosters greater public trust and confidence in the ability of the department to spend taxpayer money wisely.

The successful determination of accurate financial information for military equipment begins with and remains a part of the acquisition process throughout the life of any item of equipment.

The author welcomes comments and questions and can be contacted at richard.sylvester@osd.mil.

A Game of Numbers

Building Strategic Partnerships with Industry

Jaime Gracia



To fill personnel gaps and keep up with the pace and complexity of acquisitions, DoD must rely more heavily on contractors.

In spite of the efforts to attract and retain talented acquisition professionals, the increases in workload, the complexity of the contracts, and the military operations in Iraq and Afghanistan have resulted in a dramatic reduction in the Department of Defense's capability to meet the difficult challenges thrust upon the acquisition community. Complicating the problem are issues of ethics, which have resulted in congressional action to increase the scrutiny of the contracting field through more regulation and oversight. One of the fundamental root causes of inefficiencies in DoD procurement needing

to be addressed is the lack of trained professionals to handle the workload. More resources are required to handle the complex DoD acquisitions processes because new hires, leadership development, and training will not suffice to fill the ever-increasing gap in skills needed.

Hiring and Training

DoD faces enormous challenges in building its acquisition workforce. Many proposals to attract new talent have been reviewed, and DoD is continuing its efforts to develop leaders from within the department. The Acquisition Advisory Panel, created as a result of the Services Acquisition Reform Act of 2003, recommended eliminating obstacles to the hiring of new talent and establishing a government-wide acquisition intern program to attract first-rate entry-level personnel into acquisition career fields. The panel also recommended incentives to retain qualified, experienced personnel. Nonetheless, finding the right balance of skills to complete acquisition functions continues to be a challenge. Further complicating the issue is the

pay disparity—experience continues to walk right out the door or right past it for the better-paying private sector.

The issues are pronounced in the Army. *Urgent Reform Required: Army Expeditionary Contracting*, the report of the Commission on Army Acquisition and Program Management in Expeditionary Operations, observed that the Army's acquisition workforce is not adequately staffed, trained, structured, or empowered to meet the needs of

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the warfighter. The report also noted that only 56 percent of military officers and 53 percent of civilians in the Army contracting career field are certified for their current positions. A similar situation can be found across DoD.

As the DoD acquisition workforce decreases and the investments in goods and services increase significantly, the role of the acquisition workforce continues to change as well. That workforce must now have the skills and knowledge to manage more complex contracting approaches. However, government acquisition personnel do not have all of the necessary skills and knowledge. Therefore, to fill personnel gaps and keep up with the pace and complexity of acquisitions, DoD must rely more heavily on contractors to fill program management responsibilities, develop requirements, design products, and select major system and subsystem contractors. Although issues exist with contracting out procurement functions, DoD's performance of its acquisition functions can be vastly improved through strategic partnerships with industry.

Finding the Balance and Filling the Gap

"Total force construct," described in the *2006 Quadrennial Defense Review* and the *DoD Civilian Human Capital Strategic Plan 2006–2010*, is the department's strategy to develop the right balance of personnel and skills through integration of all the components of the total force: active and reserve military members, civilians, and support contractors. But before DoD can capitalize on contractors' respective strengths and create ideal outcomes, it needs to better understand what support contractors provide as part of the total force—more specifically, how contractors providing acquisition support fit into the construct. To develop that understanding, DoD has established a total force initiative to enable acquisition organizations to understand how, where, and to what extent support contractors are appropriate.

The human capital plan goes one step further by incorporating strategies to ensure that the contracting community continues to effectively deliver equipment and services to meet the warfighter's needs. For instance, the plan mentions the need to adjust personnel strategies such as recruitment and retention efforts to eliminate gaps. But the plan does not go quite far enough because it does not explicitly state the need to consider contractors in assessments to identify current and future gaps in the acquisition workforce. In short, the plan does not foresee a major role for contractors as part of the strategy.

While DoD implements workforce initiatives as part of its strategic plans, critical missions need to be carried out. The disparity between the number and complexity of federal government programs and the number and skill sets of federal employees available to implement those programs continues to grow. The disparity is exacerbated

by the acceleration of employee retirements. Therefore, DoD and the government as a whole should look to industry to help fulfill the acquisition mission.

Supporting the Mission

Although hiring contractors to support acquisition functions is an ongoing issue, the need to do so is compelling. In its November 2005 report, *Contracting Out Procurement Functions: An Analysis*, the Defense Acquisition University cited four top reasons that federal agencies are contracting out procurement services: The agencies need to meet workload surge requirements, are unable to hire adequate resources to meet workload, can meet workload requirements faster through contracting versus hiring, and can select specific expertise. The DAU study also cited the pressing needs of DoD contracting offices by highlighting the drops in DoD's personnel levels, the increased activity rates for procurement organizations, and the ever-widening gap between the requirements and the government's capability.

To fulfill its acquisition mission, DoD should expand the use of specifically targeted industry resources. DoD particularly needs acquisition professionals with technical skills related to systems engineering, program management, and cost estimation. Obtaining these skills through the use of industry resources will require creating strategic partnerships with industry.

This relationship begins by using the correct mix of government and industry personnel who have the proper training, qualifications, and skill sets. The DAU report stated that as a general rule, contractor employees should not exceed 25 percent of an activity's total procurement workforce. The DAU report also stated that it is reasonable to contract out functions or tasks that are not inherently governmental. However, the DAU report failed to explain the rationale for the percentage mix of government versus contractor personnel or to define the acquisition functions that were deemed inherently governmental. DoD needs to consider these issues as it makes strategic decisions on the proper and effective use of contractors to close the acquisition capability gap.

Lowering Risks and Increasing Performance

Using contractors to perform the DoD acquisition mission does come with risks. In particular, as noted by the Government Accountability Office, contractors could influence the government's control over and accountability for decisions that may be based, in part, on contractor work. GAO also noted two other risks: Contractors may not be subject to the same ethics rules as government employees doing the same job, and the government may enter into an improper personal service contract if an employer/employee relationship exists as a result of the contractor support.



Before DoD can capitalize on contractors' respective strengths and create ideal outcomes, it needs to better understand what support contractors provide as part of the total force.

Because of the risks, some in DoD hesitate to form strategic partnerships with industry to fulfill acquisition functions. However, these risks can be mitigated through oversight, planning, training, and leveling of the acquisition skill sets between contractors and government personnel.

Oversight

To ensure that performance objectives—cost, schedule, and performance metrics—are met, government oversight must be better managed after contract award and through implementation, execution, and closeout. This oversight must be consistent with the contract, and it must be provided through a proper mix of skilled contract employees familiar with the requirements of the customer. GAO has written extensively about this issue, which has been specifically acute during emergency operations such as in the aftermath of Hurricane Katrina and Hurricane Rita. DoD leadership at all levels must do a better job communicating with industry through strategic relationships that ensure mutual success for both the customer and the contractor. This communication would

be particularly beneficial prior to contract award so that both parties have clearly delineated roles and responsibilities for proper authority and program effectiveness.

Planning

Many problems with execution and the proper role of contractors performing inherently governmental functions can be mitigated through planning prior to contract award. This planning should focus on some of the important factors—cited by the GAO as continued risks—that DoD must improve upon. These factors include clearly defining performance objectives, roles, and responsibilities for contractors performing acquisition functions; mitigating risks with personal service contracts; and identifying conflicts of interest.

To help discuss the need for improved communications with industry, a January 2008 memorandum from Shay Assad, director of defense procurement and acquisition policy, described a key element in proper planning and risk mitigation: Improve communication with industry during the source selection process. Assad encouraged government participants involved in source selections to fully engage with industry at all stages of the competitive process, including industry days, requests for information, and draft requests for proposals to provide opportunities for industry and government to exchange data of mutual benefit. Through these types of exchanges, both parties can overcome the issues involving contractor roles, loss of governmental control, and inappropriate relationships between contractors and the government.

Through specific performance objectives, proper oversight, and regular reporting—planned prior to contract award—the two parties can create a mutually advantageous strategic partnership. Early planning also needs to address resource management and the assignment of trained performance monitors to the contract so that proper oversight can begin upon contract award. This type of planning should be done early to ensure contractors are held accountable and to mitigate the inherent risks.

Training

The need to properly train government personnel to perform acquisition functions cannot be stressed enough. GAO has written many reports that identify DoD as being at risk because of inadequate surveillance of contracts. Therefore, government personnel need training on contract surveillance. Another issue noted by GAO was that DoD did not know the content or frequency of ethics

training and counseling, nor did it know which employees received information on conflicts of interest and procurement integrity. To help offset these challenges, the Acquisition Advisory Panel recommended training for contractors and government employees, and development of standard conflict of interest clauses for use in solicitations and contracts. DoD's policy is to provide personnel with timely and effective training to ensure they have the knowledge and other tools necessary to accomplish their missions. Continuous improvements in this area will help alleviate the issues with government personnel and will ensure timely performance by contractors.

Risk Management

Risks can be further mitigated by addressing organizational conflicts of interest. This can be done without any new federal statutes. As recommended by the Acquisition Advisory Panel, conflict of interest obligations should be imposed through contract clauses to ensure ethical conduct. This relates to the creation of the strategic partnership between government and industry, resulting in an open communications policy that will ensure ethical behavior in all aspects of the relationship. Nonetheless, a new Federal Acquisition Regulation ethics rule requires companies doing business with the federal government to adopt a written code of ethics and business conduct, establish an employee ethics and compliance training program, implement an internal control system, and display Office of the Inspector General hotline posters in common work areas and on any Web site used to provide information to employees. The new rule, coupled with self-regulation and proper contract clauses, will ensure the mitigation of conflict of interest issues throughout the life of the contract. As a strategic partner, industry does not want to put itself in a position where it cannot be responsive to customer needs and requirements because of the nature of the work it performs for its customers. That fact, combined with open communications and proper oversight, should help alleviate some conflict of interest issues recently identified by GAO and DoD.

Increased performance and the alleviation of certain barriers to performance may be achieved through the Acquisition Advisory Panel's recommendation of replacing the ban on personal service contracts with guidance on the appropriate and effective use of such contracts. A personal service contract is defined in the FAR as a contract that, by its express terms or as administered, makes contractor personnel appear to be government employees. The Office of Personnel Management further defines them as contracts "that establish an employer-employee relationship between the government and contractor employees involving close and continual supervision of contractor employees by government employees rather than general oversight of contractor operations." The key indicator of a personal service contract, according to the FAR and the Office of Personnel Management, is whether the

government exercises relatively continuous supervision and control over the contractor personnel. Using contractors to perform acquisition functions—clearly a personal service contract—has been an issue that DoD leadership has struggled with to ensure integrity of the acquisition process. However, the increased flexibility that can come from the ban on these prohibitions can help relieve some pressures on both contracting officers and the overall acquisition workforce.

In implementing the panel's recommendation, the government should be allowed to direct or supervise the substance of work or tasks performed by the contractor. This new flexibility, however, should be accompanied by retention of the current prohibitions on government involvement in purely supervisory activities such as hiring, leave approval, promotions, and performance ratings. Because this recommendation is a significant departure from the current practices on the prohibitions on personal services, the panel further recommended that the GAO review the new policy five years after implementation to identify the benefits of the changes and any unintended adverse consequences or abuses by agencies. Through implementation, DoD can have enormous flexibility in creating the strategic partnerships necessary to perform its acquisition functions, while lowering risks and increasing responsiveness to the warfighter.

Leveling of Skills Sets

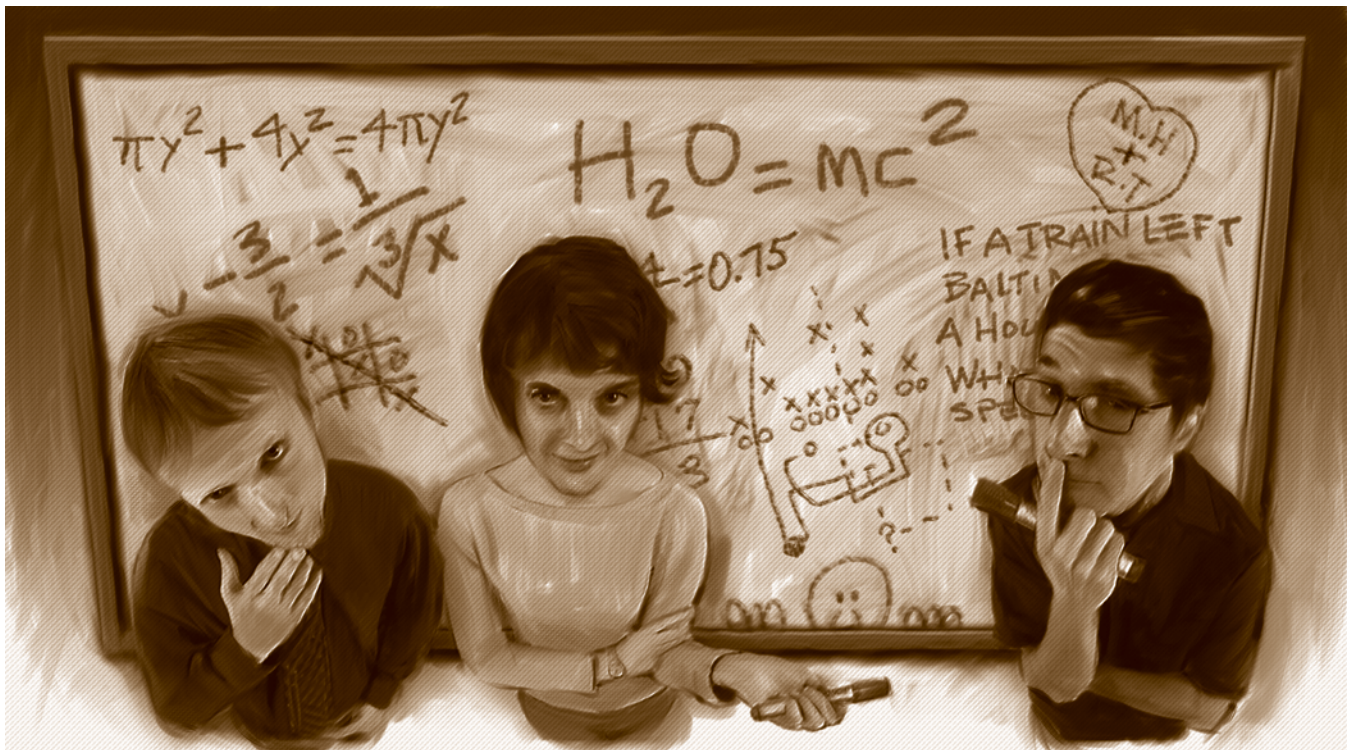
Through its human capital strategies, DoD needs to ensure that the strategic partnership includes the right mix of contractors and government personnel, aligned with the needed skills to perform the acquisition mission. Contractors performing acquisition functions should have, as a minimum, the equivalent levels of experience, education, training, and certifications that are required of government personnel performing the same tasks to ensure that adequate resources and required capabilities are brought to bear on the acquisition function. DoD should create a path for contractors to be Defense Acquisition Workforce Improvement Act-certified to ensure that the contractors' skill sets meet the government's needs.

Although training, hiring, and balancing of skills will continue to be a priority for DoD in relation to its human capital strategies, the benefits of forming strategic partnerships with industry cannot be overlooked. DoD does not have adequate resources to complete its acquisition mission. Moreover, instances of waste, fraud, and abuse will continue to occur unless DoD works flexibly with industry to close the acquisition skill gap and to ensure the achievement of cost, schedule, and performance goals.

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The Truth About Process Loss Costs

Maj. Dan Ward, USAF ■ Maj. Chris Quaid, USAF ■ Capt. Gabe Mounce, USAF



A guy comes back from Vegas and brags he won \$10,000 at a slot machine. Impressive, right? Sure, until you discover it was not his first pull ... nor his last. And he doesn't mention the airfare, hotel costs, taxi rides, poker losses, and other expenses uniquely associated with his trip. He may have had a good time in Vegas, but chances are, he didn't actually make any money there (at least, not once we look at the whole picture).

In a similar way, process-oriented methodologies, such as business process reengineering or its successor, business process management (BPM), are widely lauded for turning organizations into process enterprises and bringing significant efficiencies to a wide range of activities, from manufacturing to logistics to developmental and operational testing. Process-oriented approaches are also increasingly applied to the full range of business activities, including customer relations and research and develop-

ment. Advocates like to cite statistics such as a 21-percent reduction in processing time or a 45-percent increase in request handling throughput. That all sounds impressive at first blush.

However, as Michael Pollan pointed out in his book *The Omnivore's Dilemma*, "Once science has reduced a complex phenomenon to a couple of variables, however important they may be, the natural tendency is to overlook everything else." And in all this discussion of increased efficiency, often overlooked in the equation are the costs associated with process, which we call the process loss cost (PLC).

In a 2002 white paper entitled "The Business Process (Quiet) Revolution: Transformation to Process Organization," Meir Levi, CEO of Interfacing Technologies Corporation and a widely recognized leader in the business process revolution, makes a rare acknowledgement that

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“the transition to a Process Enterprise takes a concentrated level of effort ... [and] may take several months,” but he stops short of actually addressing the PLC in a meaningful way. That’s where we come in.

The PLC, as we’ve defined it, is the sum of several distinct sub-costs (detailed below), many of which are repeating, long-term costs. These sub-costs can be quite large, and ignorance of them leads organizational leaders to overestimate the benefits of becoming a process-oriented enterprise.

Overhead Costs

The most obvious of the PLC components, overhead costs should be the easiest to measure, if one is so inclined. The BPM approach, for example, includes five steps, each of which carries a cost: design, modeling, execution, monitoring, and optimization. To this list, we could add documenting, training, discussing, modifying, enforcing compliance, and other similar activities.

The overhead costs also include hiring consultants and/or establishing in-house expertise in the discipline of the process techniques and philosophy. For example, the Six Sigma process improvement technique uses people known as Black Belts, who are expected to devote 100 percent of their time to Six Sigma. Like most experts, they don’t come cheap.

Further additions include the cost of introducing the methodology’s fundamental concepts to the workforce and training all the employees on the specific new processes. For example, we found a nine-day series of process seminars at a cost of \$8,700 per person. We even found a 50-minute process DVD for sale at the low, low price of \$699. The purpose of the DVD is to “make crystal clear the full range of payoffs” associated with becoming a process enterprise, and to “help persuade those still uncertain about process.” We suggest it makes sense to understand the payoffs *before* spending \$699. In fact, we think persuasive advertisements about the benefits of something should probably be free.

Last and certainly not least, overhead costs include costs of specialized software used to perform process-related activities. Forrester Research estimates that spending on BPM software (including licenses, services, and mainte-

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perform better.
We think they have
some explaining
to do.

nance) will grow from \$1.2 billion in 2005 to more than \$2.7 billion by 2009. Not negligible—and hardly ever mentioned when discussing the benefits of process-oriented methodologies, probably because the people measuring the benefit don’t talk to the ones paying the price.

Opportunity Costs

Process-oriented approaches are focused on reducing variation and increasing repeatability, consistency, and standardization. Dr. Michael Hammer, the erstwhile founder

of the business process reengineering movement, explains it this way: “People are doing process work when they follow a precise design rather than improvising.” He also explains that “a process design ... specifies exactly what is to be done by whom, when, and where.”

Opportunity costs, therefore, include opportunities lost or delayed as a result of the presence of situations the process does not anticipate or is ill-equipped to deal with—situations that require improvisation or deviation from the norm. This includes overlooking or bypassing new customers, suppliers, markets, methods or techniques which do not fit the process, or which would require a greater degree of flexibility or personal initiative than the process provides allowance for.

When a defect is defined as “nonconformity of a product or service to its specifications,” as it is in Six Sigma, we run the risk of seeing even an improvement as a defect. That might make sense in a manufacturing environment, but in other contexts, it incurs a cost. Those costs are not easy to measure but are, nonetheless, quite real.

Opportunity costs also include misapplication costs, which are the result of a mismatch between the preferences of the established process and the actual demands of the current business environment (internal or external). They include the cost of poor outcomes caused by forcing a square peg into a round process hole. Not only do process advocates ignore these costs, but some actually say the lack of improvisation and variation is a benefit to the organization and its customers.

Pinhead Cost

As *Scientific American* magazine pointed out in 1856, when a worker’s task is precisely and narrowly defined—

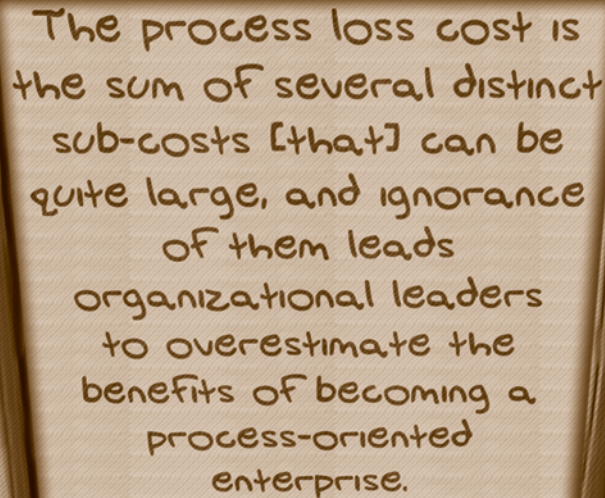
when the what/who/when/where are strictly specified, when improvisation is forbidden, and when variation is frowned upon (such as with a factory worker manufacturing pins)—the worker's "powers of mind will dwindle, and his head becomes ... no larger than that of one of the pins he makes. He ceases to be a man, and becomes a mere tool." As already explained, Hammer's BPM approach uses precise design to dictate the what/who/when, removing improvisation and variation. The end result sounds a lot

like the pinhead-producing structure *Scientific American* warned against more than 150 years ago. The worst part is that a majority of the pinhead cost is paid by the organization's employees and only indirectly by the organization itself. This is yet another case of benefits and costs being realized by different parties.

Process advocates naturally deny the existence of the pinhead cost and frequently object that those who have the gall to mention it simply misunderstand what process is all about. However, we are not willing to ignore the man behind the curtain, no matter how much the giant head of Oz protests.

By their own admission, process-based approaches to organizational behavior are inherently focused on uniformity in terms of both organizational outcome and employee behavior. The process enterprise's demands for repeatability and conformity of human behavior stunt workers' development, repress talent, and stifle initiative. People learn through variation and exploration, not through simple repetition. Take away improvisation and experimentation, and you undermine learning. The end result is an apathetic and underdeveloped workforce. Aside from the ethical concerns of treating people this way, it also diminishes the pool of future leaders—and even the most ardent process advocate must admit *that's* not a good thing for the organization.

Lest there be doubt as to the tendency for process enterprise leaders to treat people this way, Hammer himself suggests that senior leaders use their clout to "compel the participation of all constituencies." That's not exactly an enlightened approach to leadership and doesn't support the assertion that process is about empowerment, encouraging creativity and initiative, or otherwise valuing and developing employees. Quite the opposite.



The process loss cost is the sum of several distinct sub-costs [that] can be quite large, and ignorance of them leads organizational leaders to overestimate the benefits of becoming a process-oriented enterprise.

These components of PLC are often hidden, ignored, or otherwise denied. They are not discussed openly, and apparently they are not taken into account by process advocates when calculating the promised efficiencies of a process-oriented methodology. This is misleadingly sloppy at best and reminiscent of what Michael Pollan calls blind-man's accounting, which turns a conveniently blind eye to certain costs. If PLC is thought of at all, it is written off as negligible, like friction in a high school physics

problem. But the truth is, in some situations PLC can be large and persistent. It should not be ignored.

For example, it might cost an enterprise 10 units to accomplish a particular task before implementing a process-based methodology. Using BPM or a similar approach, the organization now accomplishes the same task at a cost of five units. Process advocates therefore calculate a savings of 50 percent by neglecting to account for the PLC. However, let's say the overhead cost is three units, the opportunity costs are another three units, and we end up with a PLC of six units. Accomplishing the task now has a net cost of 11, not five units. This approach actually ends up costing more than the original 10 units. If the task is repeated, the opportunity costs can be expected to persist or even increase, and the pinhead cost is likely to rise over time as well.

This is an admittedly simplistic and notional example, not based on any actual data. It is entirely possible—perhaps even likely—that in most cases, the PLC will be less than the BPM benefit, in which case the process approach provides real savings to the organization. We aren't saying process doesn't help—we simply want to increase awareness of the costs associated with process-based approaches. As with anything, when determining the degree of benefit, we need to look at all the factors, not just the favorable ones. To what extent PLC can be minimized is an open question, largely because the actual costs have not been extensively examined or measured. The point of this article is not to offer a quantified assessment of this cost, because the PLC will be different for each situation. Our objective is simply to point out that PLC exists.

Our investigations in this area indicate that process is most helpful (and the PLC is minimized) in a static, simple environment where the objective is to provide standard-

ized, repeatable outcomes. In this situation, many components of the PLC are one-time costs. But in a dynamic environment where change is frequent and where custom, unique outcomes are desired, PLC has the potential to go through the roof. Organizational behaviorists refer to this as “non-routine” work—defined in the book *Organizational Behavior*, by Michael Hitt, C. Chet Miller, and Adrienne Colella, as situations where there is “significant variation in the fundamental nature of problems over time, requiring new methods to find unique solutions.” We suggest that non-routine, dynamic work is both ill-suited to the process treatment *and* more prevalent in modern work environments than the process advocates care to admit.

Ironically, some process advocates and practitioners subtly cite PLC, without using the term, as a reason to disallow deviations or changes from established processes. They argue that the cost of changing the process exceeds the benefit of the deviation, so they turn down opportunities for innovation and exploration (thus paying an uncalculated opportunity cost). At the same time, they trumpet the efficiencies brought about by their standardized, repeatable processes. This is circular reasoning—sometimes PLC is too large to allow changes, and sometimes PLC is so small it can be ignored. It is all very convenient, and frankly, it is unbecoming of the scientifically minded process advocates, who are supposed to value comprehensive data, accurate measurement, and rigorous analysis.

The existence of a PLC does not mean we should reject or abandon all process-oriented approaches to improving business performance. Process is not the problem—an undue focus on process is the problem—and calculating the benefits without counting the costs is just silly. We are simply pointing out that PLC should be acknowledged, examined, discussed, and accounted for. This bears repeating: In many cases, perhaps even most cases, PLC will not exceed the benefits of a process-oriented approach, although the pinhead cost alone is potentially exorbitant and must be studiously minimized. There are ways to decrease each of these sub-costs within a process approach, once we are aware of them, and good process approaches do just that.

Interestingly, in the course of researching this article, we informally and non-scientifically contacted several (unnamed) BPM consulting organizations, asking for information about the typical costs and investments required to become a process enterprise. In almost every case, we quickly received a friendly “We are working on your request,” sometimes automated and sometimes personally generated. In every case, that was the last we heard. Not a single consultant or organization offered even a single data point as to the costs. We are beginning to suspect a conspiracy of silence.

Despite claims by Dr. Levi and others that “the only way to achieve such sustainable customer satisfaction and results is to become a process organization,” there are meaningful and effective alternatives to the process approach—for example, Tom Peters’ Professional Service Firm model, or the approaches used at Ricardo Semler’s Semco or Sir Richard Branson’s Virgin (which we have mentioned in several previous articles). Let’s call these “organic methods,” in which the focus is on developing talent rather than developing processes. With their emphasis on ingenuity and individual’s unique abilities, organic methods are particularly useful for non-routine work.

Organic alternatives (such as James Bach’s heuristic-based performance improvement, to name yet another) have costs as well, but they are quite different from those of the PLC, and upon initial inspection, the costs appear smaller. The benefits of organic approaches may also be smaller, but the real question is which provides a greater net gain. A rigorous review of alternative approaches and their associated benefits and costs is well beyond the scope of this article—maybe we’ll work on that one next. But for now, we are content to point out that process is not the only game in town, and respectfully reject Hammer’s pronouncement that “the future belongs to the process enterprise.”

For all the talk of costs and benefits, the truth is that neither the costs nor the benefits of process methods have been accurately and comprehensively gauged. In fact, we probably cannot meaningfully measure a lot of this with any degree of precision or resolution—and don’t get us started on the question of causality. Further, the things we can (and do) measure only tell a part of the story—if they tell any story at all. So we are not necessarily saying PLC is high, just that it is grossly underreported, largely unmeasured, and virtually unmentioned. And that’s not a good thing. Perhaps the neglected PLC explains why, according to *Fortune* magazine, “of 58 large companies that have announced Six Sigma programs, 91 percent have trailed the S&P 500 since.” Yikes!

Process advocates say their approach helps organizations perform better. We think they have some explaining to do because so far they have only told half the story. Maybe one of them will write an article in response to our charges of sloppy thinking, incomplete math, and misleading claims. Because they claim their approach is so useful, the burden of proof is clearly on them. It’s long past time someone offers actual evidence of the benefits and the full costs inherent in their approach.

The authors welcome comments and questions and may be contacted at daniel.ward@afit.edu, chris.quaid@gmail.com, and gabemounce@earthlink.net.

Integrating Business and Financial Management Functions

William R. Fast

A program executive officer once said, “You can’t be effective in the world of acquisition management unless you have an effective business financial manager.” He’s right! People, not processes, determine tomorrow’s innovative acquisition solutions, and the BFM is a key member of the acquisition management team.

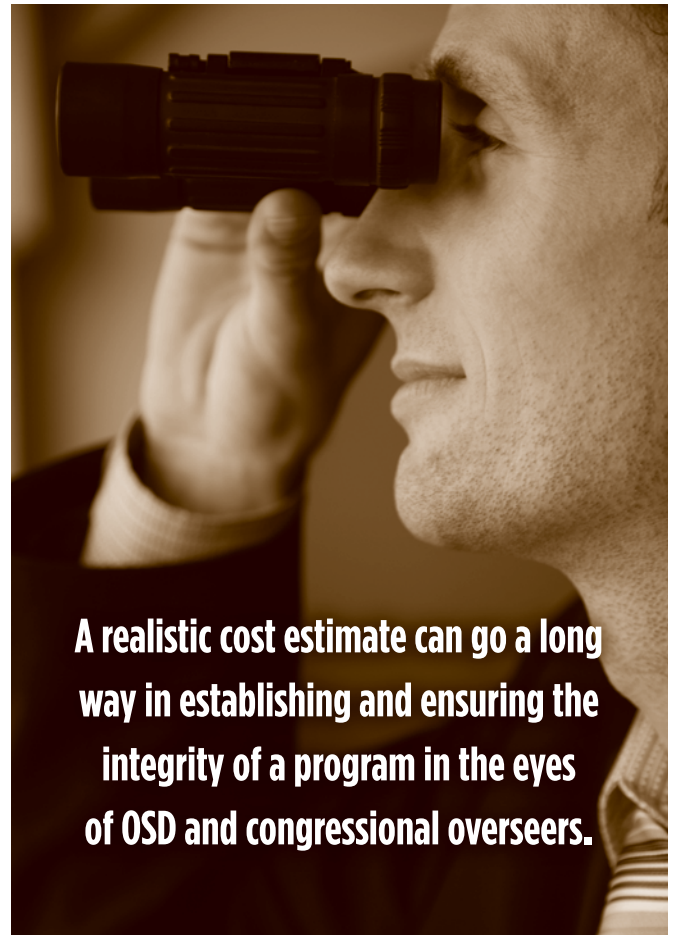
So just what does the BFM contribute to an acquisition program? What outcomes does the program manager expect the BFM to deliver? While there are many services and products that the BFM can provide, the ones that have the potential to make or break a program are realistic cost estimates, appropriated funds to support contract awards, and proper and timely obligation and expenditure of those funds.

The BFM’s contributions support each of the program’s milestone decisions and enable all phases of its life cycle. Outcomes also integrate horizontally—across the entire life cycle of the program—to enable design, realization, and support of the product. In addition, the outcomes integrate vertically to garner scarce funding resources through the Service and Office of the Secretary of Defense levels; to support planning, programming, budgeting, and execution; and ultimately, to obtain budget authority from Congress. What follows is a close look at the three key outcomes.

Realistic Cost Estimates

Cost estimates that are realistic from the outset of the program stand a better chance of remaining valid and avoiding growth over time. A realistic cost estimate can also go a long way in establishing and ensuring the integrity of a program in the eyes of OSD and congressional overseers. A best practice is to develop a robust cost estimate that covers potential cost growth.

Over the past year, 11 of 95 major defense acquisition programs experienced unit cost growth in excess of 15 percent of the current baseline or 30 percent of the original baseline, breaching Nunn-McCurdy Amendment unit cost growth thresholds. MDAPs are programs identified by OSD that require eventual research, development, test, and evaluation (RDT&E) expenditures of more than \$365



A realistic cost estimate can go a long way in establishing and ensuring the integrity of a program in the eyes of OSD and congressional overseers.

million, or \$2.19 billion for procurement in fiscal year 2000 constant dollars. Over the past year, an additional 10 MDAPs breached acquisition program baseline cost thresholds set by the milestone decision authority. Poor cost estimating contributes to cost growth.

A realistic program office estimate must include all life cycle cost elements: research and development, testing, production, operations, support, and disposal costs. The BFM should use the program’s work-breakdown structure as a checklist and involve functional experts—such as logisticians, systems engineers, quality and manufacturing specialists, the user, etc.—to make certain all cost elements are included. He or she should also check capability

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documents for requirements that identify particular cost elements. For example, the Joint Requirements Oversight Council has mandated that capability development documents contain key performance parameters for force protection, survivability, sustainment, and net-ready capability. Key performance parameters for energy efficiency (the fully burdened cost of fuel) and systems training may also be included. The Joint Requirements Oversight Council has also mandated key system attributes for material reliability and ownership costs. In addition, costs should be included to manage the program and to sustain any legacy system(s) until they are replaced by the new system. Cost estimates for those elements can be developed using expert opinion, analogies, parametric analyses, engineering estimates, or actual costs. Cost estimating is subjective, and no one particular method is always appropriate. Regardless of the method used, it's important to ensure the integrity of the estimating process and to crosscheck the estimate with results from other methods. Finally, as design solutions mature, the BFM should direct that earlier analogy and parametric estimates be replaced with engineering estimates and actual costs. In so doing, cost risk can be removed from the estimate over the life cycle of the program.

The BFM must understand the *confidence* of the cost element estimates. A cost element estimated at the 50 percent confidence level has a 50 percent probability of coming in at that amount and a corresponding 50 percent probability of a cost overrun. However, if that same cost element is estimated at the 80 percent confidence level, it has an 80 percent probability of coming in at that amount and may not experience as much cost growth over time. High-risk cost elements, like software development, might warrant costing up to the 80 percent confidence level. Making that decision, however, may make the overall program more costly.

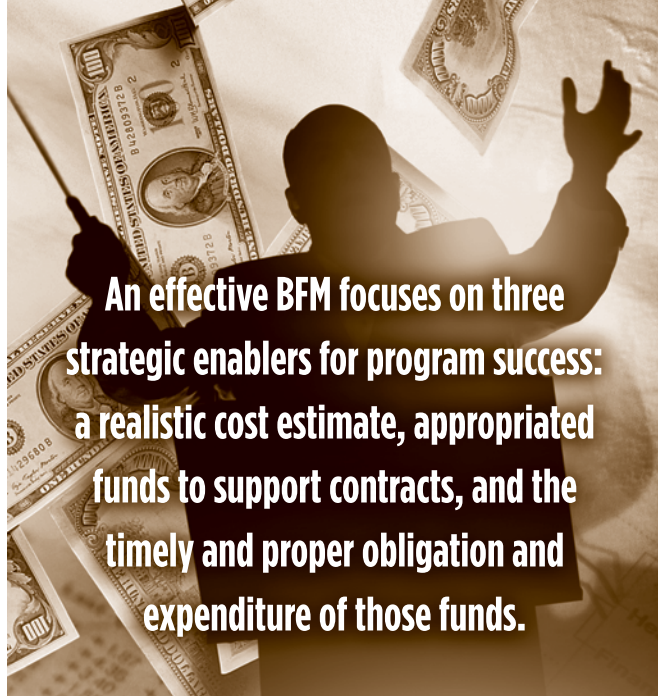
The BFM for an MDAP has to update the program office estimate for each milestone decision review. This equates to two to three updates during the program's life, depending upon where the program entered the acquisition process. In one of his or her first vertical integration efforts, the BFM presents the program office estimate and cost analysis requirements description to OSD's Cost Analysis Improvement Group and/or the appropriate component cost analysis agency. The Cost Analysis Improvement Group and/or the appropriate component cost analysis agency performs the statutorily required independent review of the high-risk elements of the program office estimate and validates the methods used to make the estimate. Since the estimate is the basis for development of the program's budget request, OSD can also review cost estimates during the planning, programming, budgeting, and execution program and budget reviews to determine if the program is fully funded by the Service and if it is affordable, given top-line budget amounts.

To be successful in this process, the BFM must ascertain that the Cost Analysis Improvement Group and/or the appropriate component cost analysis agency has the latest cost analysis requirements description, and the BFM must anticipate when updates are due. DoD Instruction 5000.2 requires a draft of the cost analysis requirements description 180 days in advance and the final version 45 days prior to a planned overarching integrated process team meeting or the DoD component milestone review. As with cost elements, functional experts need to assist in the development of the cost analysis requirements description to ensure the system under development is fully described and risks are clearly identified. Finally, to avoid problems during the budget reviews, the cost estimate and the budget request should match. If not, the program is either not fully funded to the cost estimate or the program is funded in excess of the cost estimate. Either condition will cause the comptroller to question the program's budget request.

Appropriated Funds to Support Contracts

Faced with funding constraints, the Services fund only necessary and affordable programs in the Future Years Defense Program, which is OSD's program and budget database and managed by the director, program analysis and evaluation. According to DoD Instruction 5000.2, in order to transition into the systems development and demonstration phase (in other words, to pass Milestone B), a program must be fully funded in the FYDP to carry out the acquisition strategy. In addition, a fully funded program has a measure of budget stability that should allow for predictable acquisition outcomes in terms of cost and schedule.

Over the past year, half of the MDAPs (47 of 94) have been found, either by the PM or OSD, to have inadequate programmed or budgeted funds. In 34 percent of these programs, headquarters or Congress cut program budgets. However, in 60 percent of the programs, budget requirements outgrew the levels of programmed/budgeted funds already in the FYDP. Reductions by Congress or headquarters were often the result of poor performance during development. Immature technology, test failures, and contract cost overruns were primary reasons for this poor performance. Budgets were also cut when advocacy for the program waned among the program's key stakeholders. Growth in budget requirements primarily came from instability in operational requirements and poor cost estimating. Programs with mismatched needs and resources usually experience cost growth, as is often the case when, for example, initial requirements are unclear and new requirements are added to the program over time. Alternatively, cost can grow when planned technology is immature and requires additional resources to make it useable in the system. Often, the BFM will be the first to detect mismatches between requirements, unproven technologies, and the program office estimate. The



An effective BFM focuses on three strategic enablers for program success: a realistic cost estimate, appropriated funds to support contracts, and the timely and proper obligation and expenditure of those funds.

BFM must work closely with the PM to identify time- and cost-definite increments of capability that are based on mature technology.

A vigilant BFM ensures that programmed and budgeted funds reflect the funding required by the program office estimate. To do this, the BFM has to work the planning, programming, budgeting, and execution process vertically, from budget formulation through the Service program objective memorandum processes and, ultimately, to concurrent program and budget reviews at the OSD level. Since OSD develops a new program objective memorandum every other year, over a 10- to 15-year program life cycle, the BFM can expect to engage in this vertical integration effort about five to seven times. Moreover, to get through the OSD reviews and the congressional enactment process without cuts, budget requests must be defensible.

A sound, defensible budget is properly priced and phased, and it complies with budget policies. A program is properly priced when it is budgeted to the most likely cost and when each element of cost has a rational basis of estimate. Programs must be priced based on the most recent contracts, include all recurring and non-recurring costs, and include reductions for learning and economies of scale. A program is properly phased when program budgets and their associated funding appropriations are aligned with the major phases of the program. For example, DoD typically uses RDT&E funds during systems development and demonstration. DoD budgets for procurement funds to be used on production contracts that are to be awarded after the production decision at Milestone C. In addition, the level of RDT&E or procurement funding requested should reflect a logical ramp-up and drawdown of funds over time, mirroring the work activity levels of the contracts. Finally, when requesting a budget, BFMs

must be cognizant of the budget policies that apply to the various appropriation titles. They must ensure they have applied the annual, incremental, and full-funding policies correctly. The OSD comptroller will check for compliance during the budget review phase of the planning, programming, budgeting, and execution process.

Once submitted to OSD, the next opportunity to influence the program and budget is during the concurrent program and budget reviews. The director for program analysis and evaluation leads a program review of the entire program objective memorandum, and the OSD comptroller leads a review of the budget estimate submission (the first two years of the program objective memorandum). Faced with limited resources and more than enough programs to fund, OSD may ask the PM to help frame program review issues or answer advance questions for a budget review hearing. If requested programmed funds and/or budget are not forthcoming, the PM needs to explain what capabilities will not be provided and what actions will not be accomplished as a result. For example, the PM might explain that the lethality of the system will be reduced, that operational testing cannot begin, that production will be below the minimum sustaining rate, or that system fielding will be delayed for one year. In any case, the PM should defend the program, not the budget. Operational and business impacts to the program stand a better chance of preserving budget when compared to complaints about having to deal with a shortage of funds. In the end, OSD adjusts the FYDP based upon program decisions as documented in program decision memorandums and budget decisions as documented in program budget decisions.

After adjustment of the FYDP, the budget estimate submission becomes the Department of Defense budget request and is included in the president's annual budget request, forwarded to Congress on the first Monday in February of each year. The budget enactment process ultimately results in authorized and appropriated funds. There will be opportunities for senior DoD and Service officials to influence the process as they testify about the program before the House and Senate defense committees. Even before these official testimonies, the PM and BFM should meet with professional congressional staff members to explain the program and the associated budget request. These staffers wield a great deal of power and want to be kept informed on program cost, schedule, and performance issues. The PM and BFM should not be afraid to give them bad news on the program, along with a plan to fix the problems. As House and Senate versions of the authorization and appropriation bills work their way through the committees, there may be opportunities to appeal marks and language against the program. Previous efforts to proactively engage and keep the staffers informed can help the program win a favorable decision on an appeal.

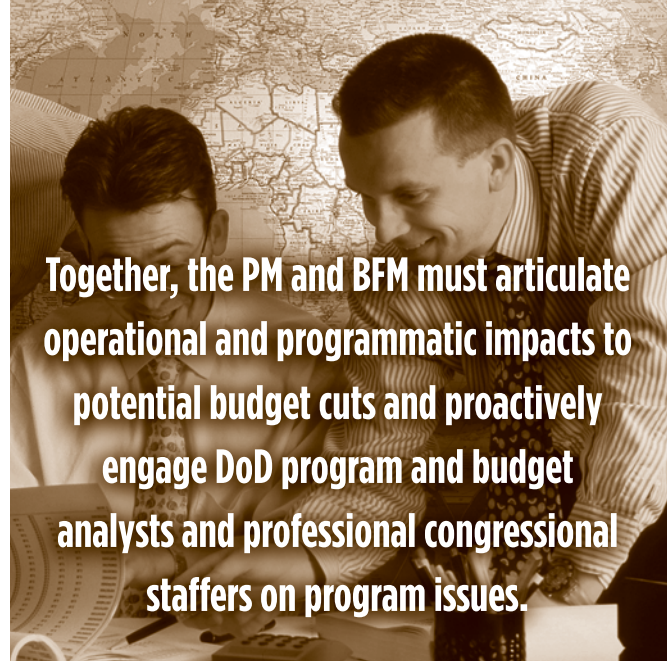
Proper and Timely Budget Execution

The annual National Defense Authorization Act gives a program its right to exist. However, only after the president signs the Defense Appropriations Act does the program have budget authority. After budget authority is apportioned, allocated, sub-allocated, and finally allotted to the program level, it becomes available for use on contracts. The program office must spend this budget authority (also called “funds”) in the way Congress intended and without violating any fiscal laws. In addition, funds must be obligated and expended at rates equal to or better than established Service and OSD goals. If not, the program risks losing these funds to other programs.

Each appropriation title has a defined period of time when it is available for new obligations (for instance, RDT&E has two years, procurement has three years, and operation and maintenance has one year). After the period of availability, the funds move into expired status for five years. While expired, the funds are no longer available for new obligations, but they can be used to liquidate previously made obligations. However, after the five years, expired funds cancel, lose their accounting identity, and are unavailable for any purpose, even to liquidate obligations. The BFM must use currently available funds to pay contractor invoices that cite canceled funds. Therefore, it is essential that contractors submit invoices in a timely manner and before funds cancel.

At the beginning of the fiscal year, the BFM must file with the Service comptroller obligation and expenditure plans for all funds that have not yet canceled. These plans are written forecasts showing, on a month-by-month basis, when funds are expected to be on contract (i.e., obligation of funds) and when check or electronic funds transfer is to be sent to the contractors (i.e., expenditure of funds). Over a 10- to 15-year program, assuming the use of just two appropriation types, the BFM will prepare and execute about 50 to 70 of these spending plans. The comptroller uses these plans to assess budget execution over the course of the fiscal year. The OSD goal is to expend 55 percent of RDT&E funds and obligate 80 percent of procurement funds in the first year of availability. Service goals are usually higher. If actual performance lags behind the plan or fails to achieve the goals, particularly at the time of the mid-year review, the comptroller may take some or all of the funds for other uses. To avoid forward-financing the program, the comptroller might also remove funds from next year’s budget request for poor execution of the current year funding program.

If the program has cost or incentive contracts valued at more than \$20 million, earned value management data should be included as a contract deliverable. EVM is a performance-based acquisition management system that objectively measures the achievement of cost, schedule, and performance goals. Using EVM data, the BFM can identify



cost and schedule variances that indicate the contract is currently over or under its budgeted cost and ahead of or behind its planned accomplishments. Projected to the end of the contract, these variances could predict an overrun/underrun in total contract cost or scheduled completion. To properly price the contract and ensure there is sufficient budget to cover any potential cost overrun, the prudent BFM reconciles the contract estimated price at completion with the budget of record in the FYDP. The estimated price at completion is determined by adding the adjusted fee or profit to the cost estimated for when the contract is completed. EVM data also feed back into the cost estimate when actual contractor labor, material, overhead, and subcontract costs replace and improve on earlier analogy, parametric, and engineering estimates used in the program cost estimate.

Finally, during the entire process of executing the budget, the BFM must make sure the program complies with all fiscal laws. U.S. Code, Title 31, Section 1301, commonly referred to as the Misappropriation Act, requires funds be used only for programs and purposes for which the appropriation was made. A program violates the Misappropriation Act if it obligates or expends funds for purposes other than those intended by Congress. U.S. Code, Title 31, Sections 1341 and 1517, referred to as the Antideficiency Act, prohibits obligations in advance of the appropriation or in excess of the amount available. Violations of the Antideficiency Act occur when the program obligates funds in advance of the enactment of the appropriation or in excess of the appropriated, apportioned, allotted, or sub-allotted amounts. In addition, U.S. Code Title 31, Section 1502(a), the Bona Fide Need Rule, requires that funds be used only for needs that arise in the period that the appropriation is available for new obligations. Obligating current funds for supplies or services not needed for several years in the future (e.g. stockpiling supplies) is a violation of the Bona Fide Need Rule.

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Successful BFM

An effective BFM focuses on three strategic enablers for program success: a realistic cost estimate, appropriated funds to support contracts, and the timely and proper obligation and expenditure of those funds. The PM depends on the BFM to integrate these three outcomes throughout the life cycle of the program. To do this, the BFM must think and act vertically, through the planning, programming, budgeting, and execution and congressional enactment processes, as well as horizontally, from concept, through development and production, to fielding and support.

The BFM works in conjunction with the PM and the program's key stakeholders to develop a realistic program office cost estimate that can withstand the cost, schedule, and performance risks realized during development of the system. A best practice is to develop a robust estimate by setting the cost of high-risk cost elements at a higher level of confidence, while being careful not to make the overall program unaffordable to the Service or DoD. Cost risk can be removed from the estimate over time if earlier analogy and parametric estimates are replaced with engineering estimates or actual costs. The BFM translates the cost estimate into stable budgets that can support the contracts needed to develop and produce the system. Stability comes from ensuring the program is fully funded to its estimate in the Service program and budget request at program initiation. Moreover, the BFM must be diligent in ensuring the program remains fully funded in each subsequent programming and budgeting cycle. Stability also comes from cohesive defense of the program and budget request.

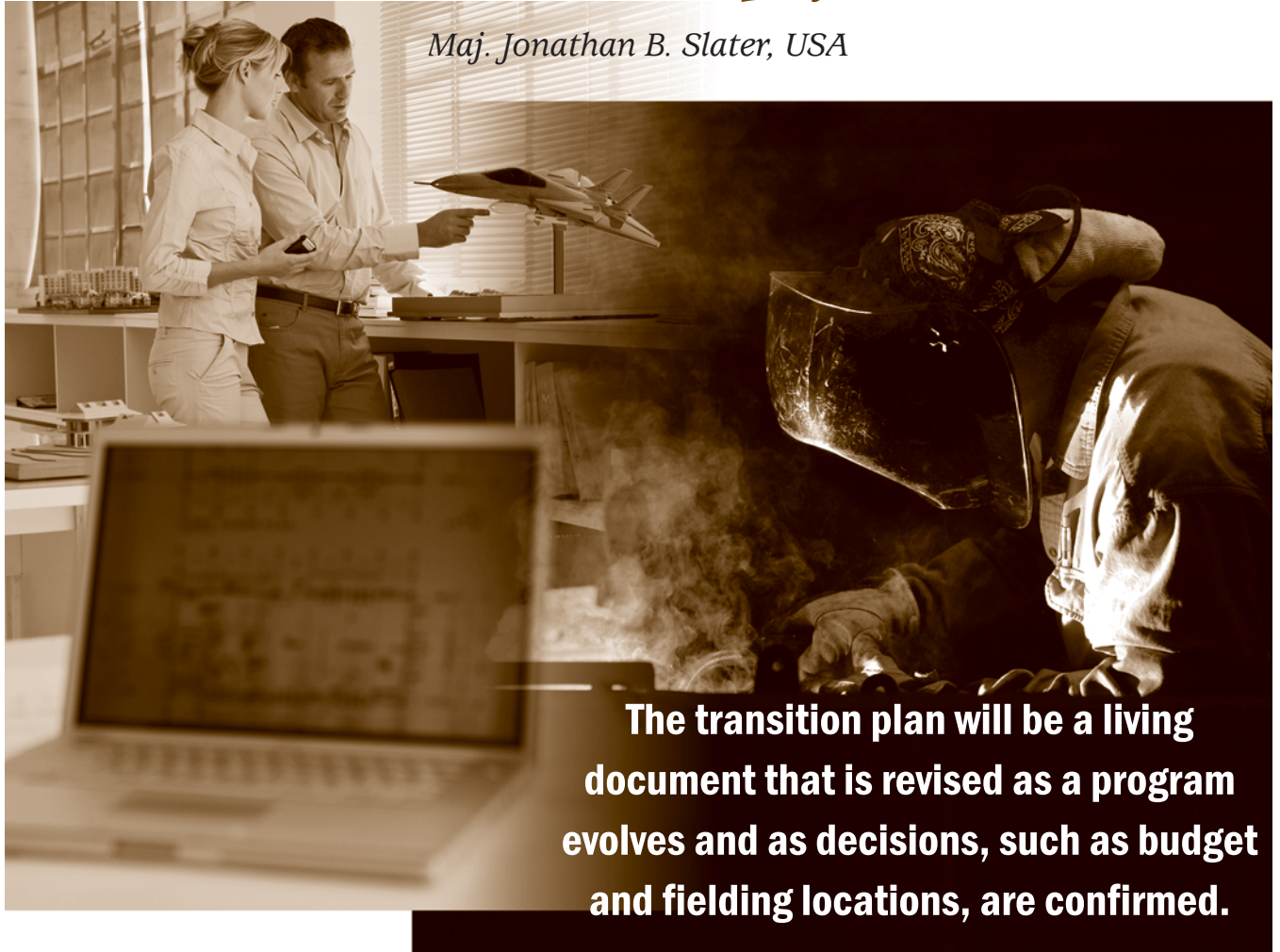
Together, the PM and BFM must articulate operational and programmatic impacts to potential budget cuts and proactively engage DoD program and budget analysts and professional congressional staffers on program issues. Finally, when funds are appropriated, the BFM works with the entire program management team to obligate and expend the funds according to established spending plans and without violating any fiscal laws. Obligation and expenditure plans must reflect reality in terms of projected contract award dates and invoicing by contractors. Realistic spending plans can be developed only through the combined efforts of the program team with input from the contractors. The effectiveness of these repeated vertical and horizontal integration efforts across the entire life cycle of the program determines the program's cost and schedule outcomes. More important, these efforts directly contribute to getting the weapon system to the warfighter when it is needed.

The author welcomes comments and questions and can be contacted at william.fast@dau.mil.

The Plan for Transition

From System Development and Demonstration to Production and Deployment

Maj. Jonathan B. Slater, USA



The transition plan will be a living document that is revised as a program evolves and as decisions, such as budget and fielding locations, are confirmed.

A program manager is responsible for not only ensuring that his or her office delivers a product in an efficient manner, but also that the product meets the receiving unit needs and that the users of the product are comprehensively trained on how to use it. The program office coordinates the flow of equipment, training resources, and the user's new equipment training schedule. These responsibilities arise during the production and development phase of a product.

What follow are some thoughts on developing a plan to take an acquisition program from the system develop-

ment and demonstration phase to the production and deployment phase. The concepts, thoughts, and processes described stem from experience with the Stryker Mobile Gun System (MGS) fielding process and planning for transition of the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS). Although the examples provided are Army-specific programs, the lessons learned can be applied across the Department of Defense.

Critical Planning for a Critical Time

An acquisition program enters the production and deployment phase when the program reaches Milestone C, and

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that is the point at which the transition plan is formally implemented. There are significant processes and concepts that must be planned, resourced, and executed to ensure the user receives the product or system efficiently and receives adequate training, and that the process is properly resourced during the production and deployment phase. The planning assumptions of transitioning a program are verified and validated during the low-rate initial production fielding and training, which is the first time the system or product will be fielded to users and is, therefore, a critical period for the program.

It is important to understand that the planning must be completed early in the system development and demonstration phase and will be refined as the program gets closer to production. A proactive program manager will tailor approaches to the program as it transitions into the system development and demonstration phase, thus mitigating negative impacts.

Pre-Transition Plan Items

Although the transition plan focuses on the period after Milestone C, there are several items that need to be addressed prior to the milestone. Several items will be specified in the low-rate initial production/full-rate production contract, and those areas include production line verification plans, the product/system acceptance process, and memorandums of agreement or letters of instruction/intent (MOAs/LOIs). A good PM wants to be proactive in having a plan in place, and to be ready to execute the plan as soon as the milestone decision authority gives approval of the milestone.

For large acquisition programs, the manufacturing process for the product or system requires validation. The procedures for conducting the validation should be developed by the transition planning team to ensure all parties understand the requirements. The procedures also need to address the program office's approved definition of production representative for the product/system. The definition spells out what characteristics identify the system and will be used in test analysis. The roles and responsibilities of all the parties involved are outlined in the MOAs/LOIs. To ensure program office readiness for the transition, most MOAs/LOIs should be made effective prior to Milestone C.

The acceptance process will address how the program office desires to purchase new equipment. A product/system may be bought at a system level; as individual components; or at another level, such as subsystem. It is important for the program office to address how parts of a product/system will be purchased following initial fielding. For example, repair parts may be bought at a component level, unit level or, because of the complexity and uniqueness of a program, it may be more cost effective to purchase parts at a system level. Because the acceptance

process discusses purchasing, organizations such as the Defense Contract Management Agency must be involved to specify the purchasing criteria and responsibilities. The program office also needs to address maintenance support to cover non-warranty items that may not work during any follow-on testing.

Developing the Transition Plan

Transition planning is most effective when conducted by a multifunctional group from across the system/product integrated product teams, with representation from the contractor, the user community, and the product office. This team should also have representation from production, logistics, test, quality, finance, and integration teams, and from the Defense Contract Management Agency. Although the program may not be under contract to move forward beyond the system development and demonstration phase, the input from the current contractor is the best industry experience that can be used in the planning process.


Transition planning is not directly intended to impact the system development and demonstration phase of a program. However, several of the decisions made during the development of the transition plan will assist the system development and demonstration process in accomplishing the demonstration system objectives. For example, the development of a product acceptance process for the low-rate initial production/full-rate production products of the JLENS system has clarified acceptance criteria for several subsystem items, such as the mobile mooring station, will be used during system acceptance/buy-off for the system development and demonstration systems.

Characteristics of a Plan

A transition plan should be as comprehensive and detailed as possible and should also provide a financial estimate to be used in program budgeting. The plan should be presented in both a presentation format (such as in Microsoft® PowerPoint) and as a white paper. The presentation is used to communicate your plan to senior leadership. Also, when giving a new materiel introduction briefing, the presentation you develop can also be tailored and presented to the leaders of the unit who requested the product.

There are several overarching ideas that must be addressed by senior leadership before or during the transition planning period. Much of the transition plan will be based on the following decisions:

- Where the system/product will be fielded
- What the plan for sustainment training is, if required
- What resources are critical to meet the system operator new equipment training exit criteria
- What deployment timelines must be met
- The concept of operation for the system.



A proactive program manager will tailor approaches to the program as it transitions into the system development and demonstration phase, thus mitigating negative impacts.

Those critical decisions, explained in further depth in the following paragraphs, will direct and may constrain the options available to the program manager in transitioning his or her program. The users of the product should be included in the initial guidance. Additionally, senior-level Department of Defense agencies, such as the Office of the Secretary of Defense, may also need to be involved in developing input to the critical decisions. It is important to realize that the implementation of the transition plan for the active duty units may require revision if they are to be used for the National Guard and Reserve units, which have specific needs.

Developing a Timeline

The first step in creating the plan is the development of an overarching transition concept, which will address how the plan envisions the new equipment training for the operator throughout the operation and support phase of the system/product's life cycle. The transition plan on the following page illustrates how personnel and equipment are brought together. The lower section of the chart depicts areas that are ongoing and that the program must have plans to address.

Fielding

Based on the type of program, fielding can be an extremely complex process. Fielding must address how all components of the system—weapon systems, associated support items of equipment, and basic-issue items—will be fielded to the unit, either before or after it is fielded to the operator for new equipment training. Fielding will be based on the program office's plan for equipment flow, to including all system government-furnished equipment not

integrated into the contractor equipment (such as trucks and generators), and the contractor-furnished equipment. Options for the equipment flow will include transporting it all to one location and issuing it to the unit all at once, or splitting the delivery and having some items that are noncritical to training sent directly to the unit home station.

Fielding may be conducted at a single location, multiple locations, or a combination of both. Both the Stryker MGS fielding and the current fielding plan for JLENS are very complex. The systems have multiple components, and both require the integration of government-furnished equipment and contractor-furnished equipment. Both must complete a final system-level check prior to government acceptance. In the Stryker MGS Program, a deprocessing yard was established, as had been the process for all the other Stryker variants. The purposes of the deprocessing yard are to combine all remaining components, address any factory shipment shortage, and complete a final system integration and test. All of this work is conducted at a single location, where a product office fielding officer, support team, contractor fielding team, and maintenance team are collocated to manage the process. At the completion of the deprocessing, the system is issued to the user.

A transition plan must address if and how this fielding process will be conducted, what facilities are required for both the government and the contractor, what the logistics support plan is, (including support equipment, test equipment, spares, etc), as well as equipment storage/staging area requirements (motor pools/secure lots).

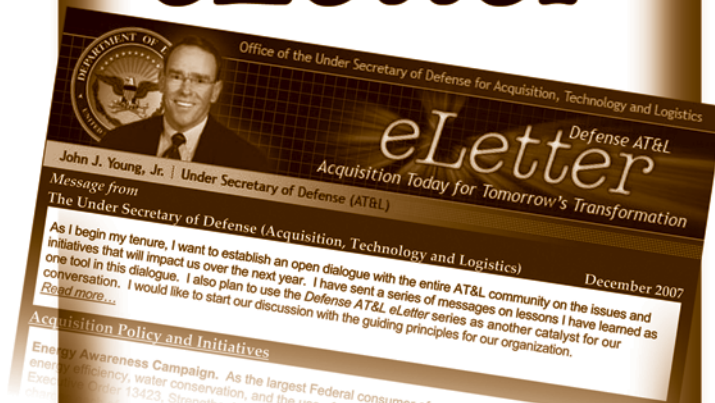
Training

All newly fielded systems require users to be trained on operation, maintenance, and employment. This training will most likely be broken into two areas: the operator new equipment training and the field-level maintainer new equipment training. The PM must provide the unit with trainers, who are typically from the prime contractor, and equipment. The equipment used for training may be either a training set or the actual equipment issued to the unit, based on equipment availability and direction from the user community.

New equipment training is closely coordinated with the user community, which will develop entrance and exit criteria for the operator's and the field-level maintainer's training event. Entrance criteria are items that the unit must complete and prove its proficiency at prior to conducting the training. For example, JLENS will require that the user is able to operate and pass information on an FM radio network. Exit criteria are the requirements of training proficiency of the user at the end of new equipment training. An example is the Stryker MGS gunnery training at the MGS crew intermediate qualification level.

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Additionally, the project office's plan for fielding and training of training aids, devices, simulators, and electronic training media needs to be identified. The overall sustainment training concept from the user community needs to match up with the training aids and equipment provided by the program. When looking at training, the transition team needs to understand how the unit will train the system in the field and what they will need to conduct its training. Most defense units train with their equipment in the local training area. However, in the case of JLENS, which is an extremely complex and large system and requires a specially prepared operational site, specially designed tactical training sites must be developed.

Lastly, training resources, such as ranges, must be identified early to begin coordination with the garrisons to determine if requirements can be addressed on existing ranges or to facilitate development of new infrastructure. For example, several new ranges were developed to support MGS gunnery at multiple fielding locations. This was a major undertaking by the product office, the user community, and the installation support groups.

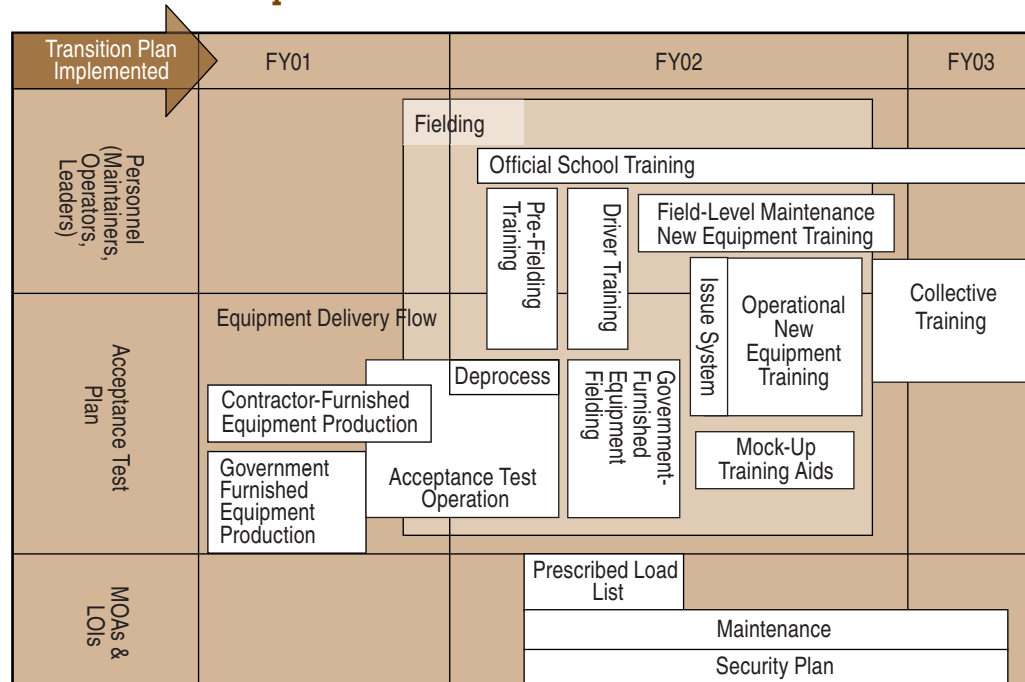
Personnel

Personnel-related issues can impact a program significantly. Training and fielding requirements of the system may require certain skill sets and specific types of personnel to be available for training sooner than the entire unit. As a result, prioritization of unit fills and tight management of critical positions must be planned by the product office and the training capabilities personnel. JLENS, for example, requires a broad range of military occupational skills, some of which are high demand or limited availability. A flight director, for example, is a unique and new position that will require extensive training at a dedicated flight training facility. The trained flight director must be available early enough to complete the training and support the unit's collective training in JLENS.

Financial

Because of the depth and breadth addressed by a transition plan, the plan will have significant financial implications. It is critical to develop the plan as early in the program as possible in order to influence financial requirements and the budgeting process. Requirements that generate facilities development may be subject to the military construction budget cycle and may cause program decisions to be adjusted, such as fielding location priorities based on availability of those facilities. Only a plan that is appropriately financed will be executable. Requirements that have financial implications should be identified by a team of both contractor and government personnel. Many of the decisions made in the transition plan will translate into requirements that the contractor will provide as a capability during the production and deployment phase and, therefore, are incorporated into the request for proposal.

Transition Concept



Note: The time required for each step will be based on the program requirement.

Ongoing Concepts

Programmatic operations, such as improvements, must be addressed throughout the production and deployment phase. Several of these are depicted across the lower section of the transition concept figure. In addition to programmatic subjects, transition planning must also address all the ongoing tactical operations that occur throughout the fielding period. During this period, the system will be employed in tactical operations. In the process of fielding, items that are expended will need to be replaced, as will those that are updated through improvements. The plan must address all these items as they concurrently occur. Critical concepts, such as configuration management and product improvements, will develop a life of their own. The product office will need to determine how and when it will touch the fielded equipment again. It will need a plan to address how upgrades will be conducted, including associated cost estimates. In addition to preplanned product improvements and upgrades, the product manager must address sustainment concepts. Operational equipment will generate maintenance and usage data that will impact the management of repair parts, parts obsolescence, and introduction of product upgrades/improvements.

Maintenance planning will need to be addressed continuously, and the intensity of the planning will vary based on how many units are being fielded, where the fielding is being conducted, and other operations that impact the program. Program offices may need to set up contractor logistic support routine maintenance support facilities at the fielding locations, or they may need to establish a reset/refurbishment yard at another location to support a unit returning from an operation or provide indepen-

dent maintenance support operation forward to support a deployment. If the transition plan addresses maintenance concepts for such contingencies, the program is more likely be successful.

During low-rate initial production and the initial fielding in the deployment phase, the program office will be required to support testing. Primarily, there is the initial operational test with active duty servicemembers conducting a set of operational tasks to validate the system. Additionally, there will most

likely be some form of follow-on test, as well as testing of product improvements. During these test processes, the program office may be required to provide logistic support, to test the equipment, and potentially provide the training for testers and servicemembers participating in the test. Product/system assets to support these tests must be planned for and funded. In programs such as the Stryker MGS, several system development and demonstration systems were dedicated solely for test assets throughout the life of the program. Some test assets may require refurbishment depending on the level of damage sustained during previous testing and must therefore be budgeted for in the financial plan of the program.

The transition plan will be a living document that is revised as a program evolves and as decisions, such as budget and fielding locations, are confirmed. The value in developing the transition plan early enough in the development process is that the effects of major acquisition and development decisions are thought through, documented, and budgeted. If used as a tool by the program manager, the transition plan will become a roadmap to a successful production/fielding effort. Because not all acquisition personnel have the opportunity of working many programs at different stages of the acquisition life cycle, this article has attempted to shed some light on this critical period in a program and will give the readers tools to help them develop their own program transition plan.

The author welcomes comments and questions and can be contacted at jonathan.b.slater@us.army.mil.

Building and Managing an Effective Project Team

Steven R. Meier

“When we’re faced with what looks at first like an unsolvable problem, a team with what I call ‘spikes’ of different talents will come up with a better solution than a team whose members have similar strengths.”

Hans-Paul Bürkner, president and chief executive officer, The Boston Consulting Group



In today’s constantly changing, fast-paced environment, the government and private industry must quickly respond to new opportunities. A team approach is often the best solution for capturing new opportunities or addressing complex issues on short timescales.

At a fundamental level, a team approach reduces a large, complex issue or opportunity into multiple smaller segments that can be solved in parallel. Once broken down into individual tasks, assignments are made, tracking systems are put in place, and benchmarks are established. This efficient approach enables the team lead to focus on the big picture and ensure that all tasks are being properly integrated. A team problem-solving approach can result

in greater productivity, more effective use of resources, higher-quality decisions, and a more open environment for creativity and innovation.

What follow are some examples of best practices on how to effectively build and manage a team to meet the challenges faced in today’s world. I’ve obtained these examples from my review of relevant publications and sources, as well as anecdotal experiential observations. In an effort to capitalize on the benefits that can be gained by implementing a team approach, a team lead should rely not only on the current best practices, but also draw from personal experiences. This places the team lead in the best possible position to achieve the team’s objectives.

Characteristics of Effective Teams

There have been many books written on team building. One book in particular, Glenn Parker’s *Team Players and Teamwork*, does an excellent job of capturing the characteristics that distinguish effective teams from ineffective

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teams. His research on effective teams found that teams that exhibit the characteristics listed below were more successful at achieving their goals:

- **Clear Purpose**—vision, mission, and goals have been defined
- **Informality**—informal, comfortable, relaxed climate
- **Participation**—everyone is encouraged to participate and contribute
- **Listening**—members use effective listening techniques
- **Civilized Disagreement**—members are comfortable with conflict
- **Consensus Decisions**—open discussion of everyone's ideas leading to an acceptable solution
- **Open Communication**—members are free to express their feelings; no hidden agendas
- **Clear Roles and Work Assignments**—clear expectations of role for each member
- **Shared Leadership**—formal leader but leadership role can shift at times depending upon circumstances
- **External Relations**—members develop outside relationships and build credibility in other parts of the organization
- **Style Diversity**—members emphasize attention to task and goals and focus on process
- **Self-Assessment**—periodic examination of how well the team is functioning.

In addition, my own experience has found that the following characteristics are also very important in building effective teams:

- **Commitment**—members really believe in the task
- **Motivation**—members are energized about the task
- **Skill Diversity**—mix of subject matter expertise
- **Urgency**—a sense of urgency creates performance
- **Trust**—there are no ulterior motives or agendas
- **Celebration**—recognize team and individual successes.

How to Build an Effective Team

After reviewing these lists, you may be asking, "How do I build this type of team?" Well, the first step is that you need to get the right people on the team. Of course, sometimes you do not have the luxury of selecting individuals, and instead, you inherit a pre-selected team. But if you do have input into the selection process, begin with thoroughly interviewing candidates. During the interview process, gauge their attitude because in most cases, it is more important than subject matter expertise. Attitude serves as a reflection of interest and commitment to the task. Go for self-assured, confident individuals with specific expertise and a positive attitude. If you can, avoid matrixed team members because they have other masters to serve, and your project will never be a priority for them.

If you inherit members, don't be afraid to remove individuals who have bad attitudes or are underperforming. I

have done this, and it is difficult. In one case in particular, I assumed a new managerial position and had to turn around a failing project quickly. In this situation, the technical lead, who was my predecessor's right-hand man, had to be transferred out of the project. He was technically astute but lacked interpersonal skills and resisted the new project direction. In other words, he was not committed to the project, and he was inhibiting progress. The lesson I learned from this experience is that part of your job as the leader is to make difficult decisions. Removing uncommitted individuals, regardless of the level of expertise, is absolutely necessary in order for your team to move forward. Similar measures must be taken when individuals are underperforming, lack motivation, or are disruptive.

As team lead, it is your responsibility to ensure that each member understands the high-level goals of the team and to show everyone a vision of success. You must have a clear and compact vision for your team; it will provide guidance in making day-to-day decisions and set bounds for each member on what to do and what not to do. Align tasks with each individual's strength, and define these tasks using SMART. That is, delegate tasks in a **S**pecific, **M**easurable, **A**greeable, **R**ealistic, and **T**ime-bound manner. And finally, define team behavioral norms that focus on trust and mutual respect and nurture these behaviors.

Plans are paramount. A team lead needs a plan in order to manage the project. Planning makes you think about all the relevant issues early and serves as a baseline that can be modified, if need be, at a later time. Track the progress of your plan on a shared calendar and be willing to modify the plan if conditions change. Impart a sense of urgency to the team by setting challenging milestones and discussing the impact to mission success.

Communicate often and through all means available and to all team members. Try to co-locate everyone to stimulate discussion and facilitate communication. You can never undercommunicate.

Much of this may seem self-evident, or even occur naturally, but being aware may help a team lead establish a firm foundation early in the effort.

A Wide Range of Talents

Diversity matters. By diversity, I am referring to both skill and talent diversity. When establishing a team, I look for team members with different educational backgrounds and experiences. For example, as the lead on a satellite architecture project, I assembled a team that consisted of a satellite sensor expert, a mechanical engineer, an optical engineer, satellite orbitologists, system engineers, a cost estimator, a data miner, external consultants, and a graphic artist. What I found out during this project was that in addition to their specific expertise, members had

other talents they brought to the table because they each had different backgrounds. Some were visionaries and big-picture thinkers, some were great data crunchers, some were good at seeing relationships, some excelled at displaying data, some could convey our analysis process in a simple manner, and others were excellent presenters. At times, we shared leadership roles throughout the project, particularly when a task aligned with a member's strength. I encouraged this type of behavior by creating a positive, non-judgmental atmosphere that allowed members to contribute in their subject matter area and to exercise their other talents in other areas.

In order to build a positive environment, consider taking an initial inventory at the beginning of the project to query team members on their strengths and weaknesses and how they feel they can best contribute to the project. Figure out what members like to do and what they don't like to do and then assign roles and responsibilities based on the feedback. And be alert during the course of the project in order to identify hidden talents.

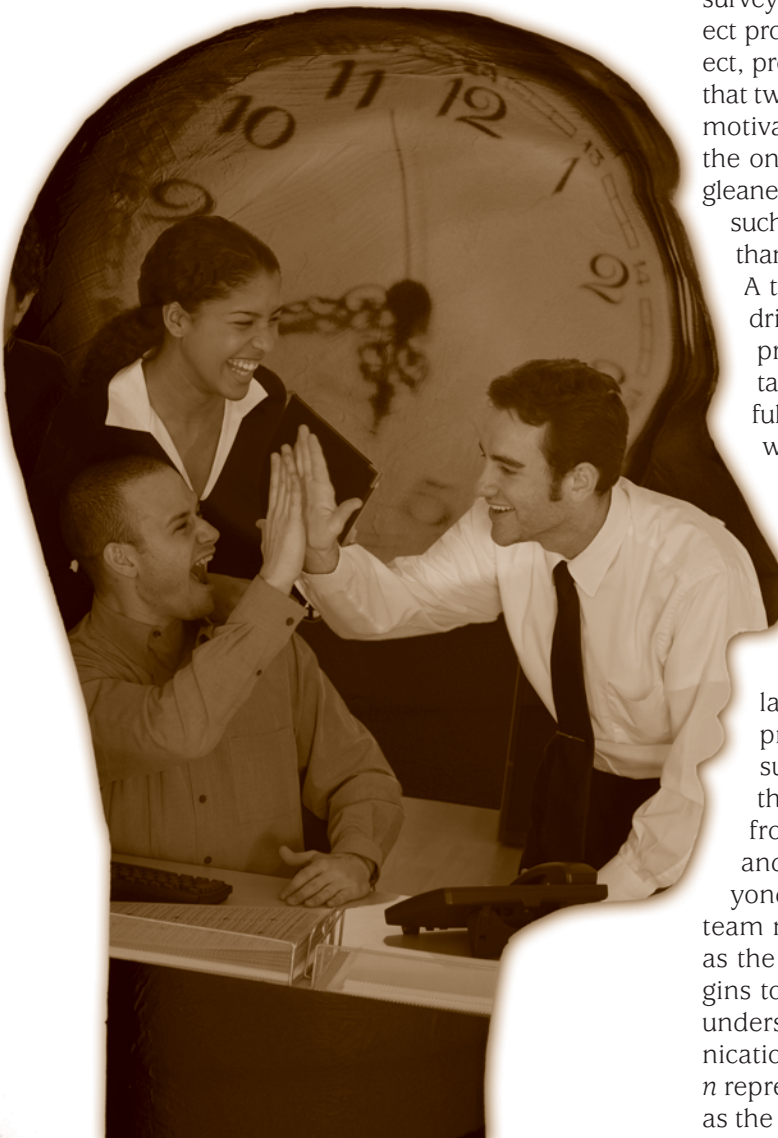
Another view of diversity comes from Hans-Paul Bürkner, president and chief executive officer of The Boston Consulting Group, who stated in a recent *Harvard Business Review* interview, "When we're faced with what looks at first like an unsolvable problem, a team with what I call 'spikes' of different talents will come up with a better solution than a team whose members have similar strengths." He added, "The process can be slow and uncomfortable; spikiness hurts. But it can yield spectacular results—as long as the firm and project leader ensures that the team members appreciate one another's talents." So build a "spiky" team with a diverse set of individuals when the situation calls for it. It is your job to find each individual's strength and apply it to the overall team effort.

Encouraging Team Members

Motivation plays a key role in effective teams. A team lead must celebrate successes along the way to maintain high levels of motivation and camaraderie. Motivation has been shown to be one of the strongest factors that determine team effectiveness according to a recent global survey by the Project Management Institute of 120 project professionals that included team members and project, program, and portfolio managers. The survey found that two-thirds of the respondents commented that team motivation was high at the beginning of project versus the one-third at the end of the project. Additional data gleaned from this survey found that intrinsic motivation, such as working for a cause, was much more powerful than external motivation, such as a financial incentive. A team lead should be aware of intrinsic motivation drivers and shifting motivation trends throughout the project life cycle. As the team lead, you must maintain a high level of motivation in order to be successful. That includes providing public or private praise when warranted, giving on-the-spot awards, sharing praise from stakeholders, or providing something as simple as a cake to celebrate a milestone or a task well done.

Size Matters

A recent article in the *Harvard Business Review* by L. Gratton and T.J. Erickson on team collaboration found that some of the characteristics previously listed in this article as crucial to team success can also undermine a team, depending on the team's size. The authors surveyed 1,543 people from 55 teams that ranged from 4 to 183 people and found that as the size of the team increased beyond 20 members, the level of collaboration among team members decreased. A team lead may view this as the knee in the curve where actual productivity begins to turn over. This decrease in productivity can be understood from the simple relationship that communication channels follow an $n(n-1)/2$ relationship, where n represents the number of people involved. Therefore, as the number of team members grows, the number of



communication channels increases. That fact, coupled with other process losses, can lead one to understand how actual productivity can decrease as team size increases.

Furthermore, the data from this study indicated that for large teams, the greater the diversity, the less likely the team members were to share knowledge. The data also suggested that the greater the proportion of highly educated specialists on a team, the more likely the team was to have unproductive conflicts. And finally, their research found that as teams became more virtual, the collaboration decreased.

While the findings suggest smaller, local, and non-diverse teams are more effective, the article presents eight specific practices that executives can introduce that lead to effective teams despite the difficulties of large size, geographic dispersion, and diversity. One of the key takeaways from this study was that building large teams requires senior leaders to play a significant role in ensuring effective organizational constructs and methods are in place, defining the ways teams are formed and managed. In order to be successful with larger teams, a team lead must have strong organizational support and constructs.

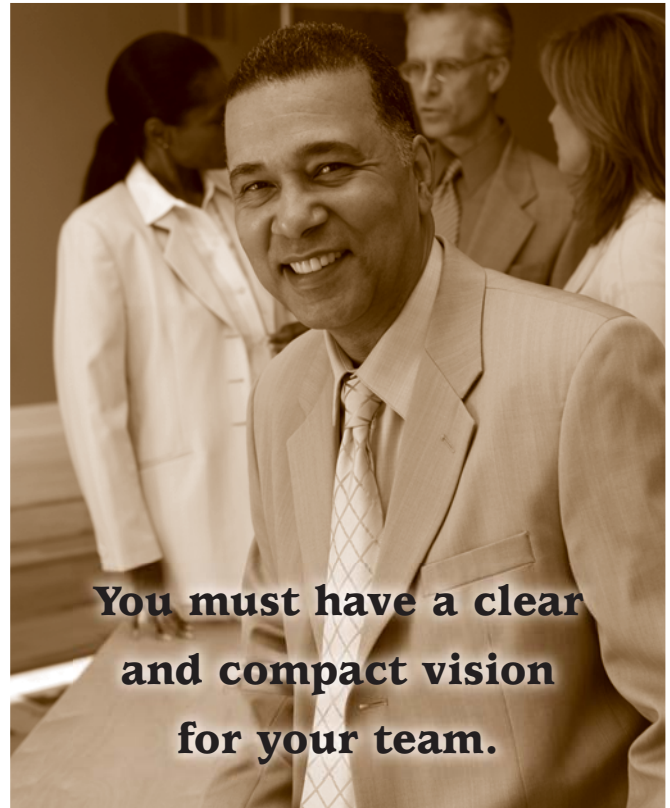
Keep the team small if you can—preferably fewer than 20 members. If you can't or it's not feasible in relation to the project or task, then ensure high-level leadership engagement with clearly defined tasks, timelines, and benchmarks.

Seek Feedback

Feedback should be solicited throughout the project and not just at the end. Waiting until the project is complete to obtain feedback translates to missed opportunities to improve team performance. It is crucial that the team lead seek feedback from team members and incorporate that feedback into the daily functioning of the team.

Over the past year, I developed a set of questions to solicit feedback from my teams. The following questions should be distributed at selected milestones during and at the end of the project:

- Do/did you understand the mission and goals of the team?
- Do/did you understand your role?
- Is/was your tasking specific enough?
- Do/did you understand how your input contributed to the goal of the project?
- Are/were the team meetings effective and timely?
- Do/did you feel you were respected and your thoughts listened to?
- Is/was the communication open and honest?
- Do/did you feel the team environment (meetings and interactions) was informal or formal?
- Any ideas on how to improve the process?



When I have presented these questions to team members, the responses to each question have varied in length and detail. The one exception is the last question, which usually elicits the most detailed responses. Most team members have opinions on how to improve the process. For example, past responses to that question include, “One person to be responsible for version control so we did not have to rectify and integrate multiple versions”; “Anything you can do to get at the genesis of the task or question”; and “We needed to have a meeting earlier with everyone to define roles and responsibilities.”

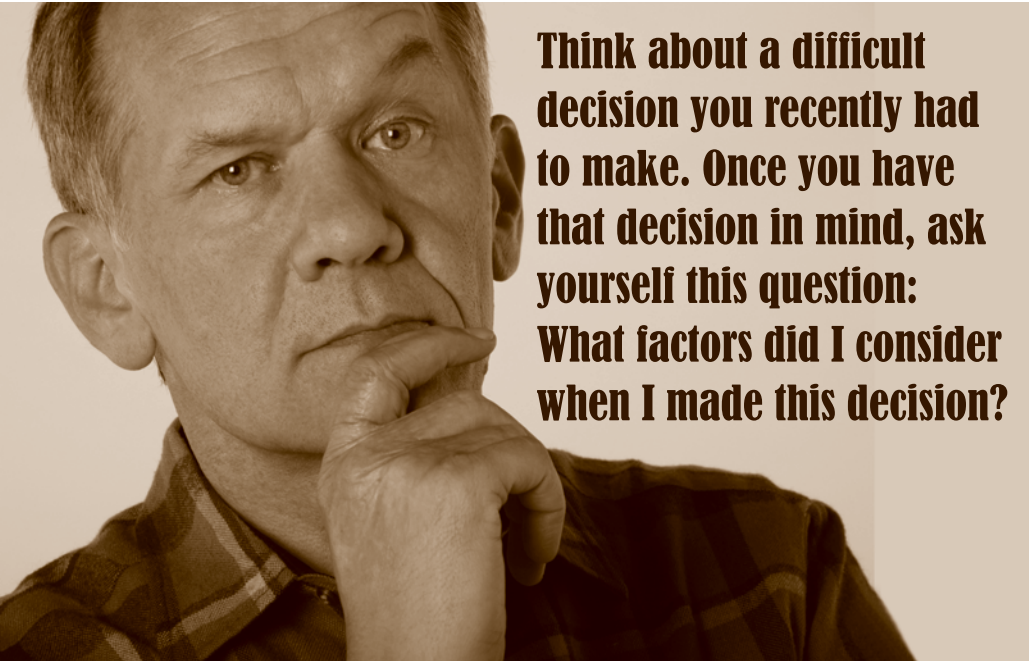
Answers to all the questions will provide the team lead clues on how to improve current and future team performance. Team leads should encourage this type of feedback and be open-minded to constructive criticism. Do not hesitate to correct confusion or miscommunications; implement positive changes rapidly.

This article provides a set of characteristics to help build efficient and effective teams derived from the literature and experiential observation. If team leaders develop and nurture these team characteristics and employ these feedback techniques, they will create an environment that significantly increases their chances to achieve mission success.

The author welcomes comments and questions and can be contacted at meierste@nro.mil.

Critical Thinking in Defense Acquisition

John F. Horn



Think about a difficult decision you recently had to make. Once you have that decision in mind, ask yourself this question: What factors did I consider when I made this decision?

Much emphasis has been placed on improving processes and procedures in order to improve performance. While this may have a positive effect, I'd like to argue that process improvements alone will not correct the problem. The challenges presented by the complexities of defense acquisition will require trained, experienced managers capable of critical thinking at all levels within the acquisition community to move decisively towards enhanced decision making and more effective program management.

Complex Decisions in Complex Times

In peacetime, meeting cost and schedule requirements are the driving imperative, but during

Defense acquisition is a challenging activity. Countries spend vast sums of public money to maintain national security and homeland defense efforts, only to observe recurring instances of programs failing to live up to performance needs along with schedule delays and substantial cost overruns. For many taxpayers, such inefficient expenditure of defense funds provides an opportunity to argue those funds could have been spent more wisely on improving the socioeconomic wellbeing of the population as a whole.

As a result, there has been considerable scrutiny of the way defense acquisition is undertaken and the outcomes from such activities. In the United States, that scrutiny has come primarily from the Government Accountability Office, at the direction of Congress. Nevertheless, despite this attention, there continues to be overall mixed performance in achieving cost, schedule, and performance goals/objectives.

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wartime operations, the need to meet performance criteria is paramount. Defense program management differs from commercial project or program management in that if weapons systems do not operate as expected, then numerous personnel may die.

Defense acquisition includes other features that distinguish it from other project management environments. It brings together both public and private sector environments (especially with the growing use of contractors in partnering arrangements to provide logistics support), and it has a myriad of stakeholders, including the general public. Taxpayers have a dual focus—the trade-off between public safety/defense and socioeconomic spending, and the consequences should military operations fail.

The world environment has now changed as a result of diverse threats. The United States' involvement in Iraq and Afghanistan has increased the pressure to shorten the acquisition cycle. There is still a need for cost efficiencies, but operational imperatives are the highest priority. Today's budgets are limited, and development time is constrained; therefore, new processes and innovative thinking are needed to solve traditional problems. The more processes are amended to facilitate financial efficiencies,

the greater the need for enhanced decision making to maintain the balance between financial and operational imperatives.

Conducting program management in today's environment is a complex, multivariable, multiple-stakeholder process, made more risky because success is usually judged by outcome and not by the quality of decisions. Because of the complexity and changing environment, a great decision can quickly be transformed into a horrendous outcome. Unfortunately, good decisions do not always result in good outcomes, and sometimes poor decisions are remarkably successful. Because of that, program management is fraught with second-guessing and addressing continuously changing priorities. Technological improvements are expanding at an exponential rate, requiring flexible technology management insertion processes and a close relationship between contractors and government acquisition agencies.

Critical Thinking

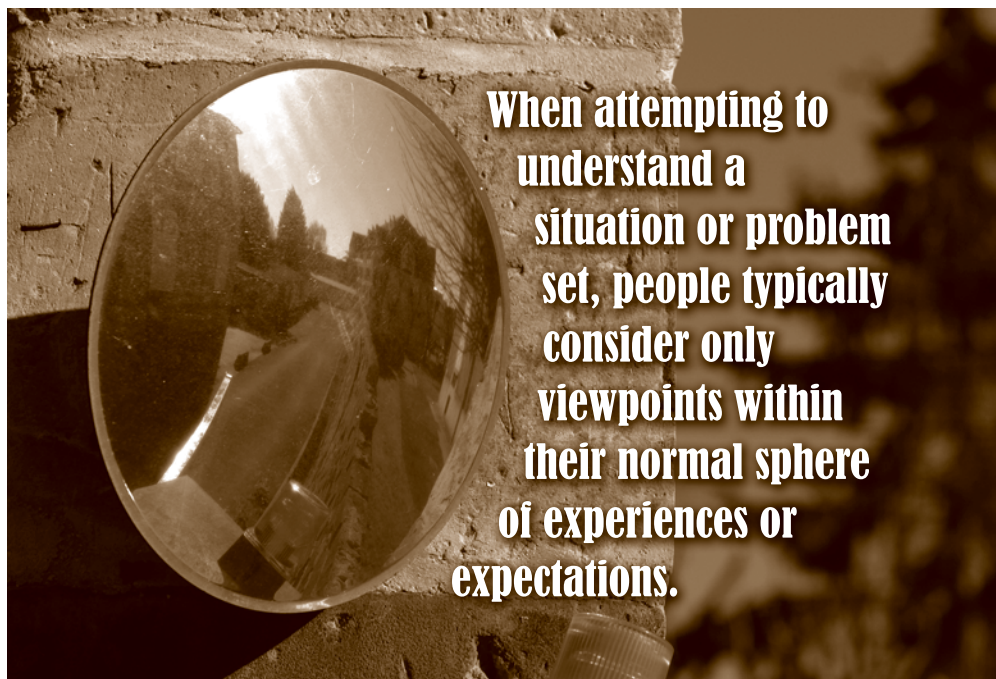
The growth of complexity in the 21st century and within DoD acquisition has spurred a growing amount of discussion on critical thinking. It appears frequently in presentations, articles, and professional journals, but rarely is it fully defined, nor are there any implementing guidelines. Most authors assume the readers share an in-depth and common understanding of the term and how to incorporate critical thinking into their decision making. I couldn't disagree more. In fact, in scholarly literature, fundamental nuances abound. In 1985, Stephen Norris defined critical thinking as "deciding rationally what to or what not to believe" in his book, *Synthesis of Research on Critical Thinking*. In the broadest sense, I agree with his definition. But its simplicity inadvertently produces an obstacle: His characterization embodies traits that most people believe they possess, resulting in the vast majority of people believing that they think critically. I've met precious few acquisition professionals who don't believe they are expert critical thinkers.

In my opinion, many acquisition professionals miss the nuances because critical thinking is much more than Norris' definition. It is a reflective and questioning approach to thinking. According to Richard Paul, Douglas Martin, Ken Adamson, and A.J. Binker in their *Critical Thinking Handbook*, critical thinking is "the art of thinking about your thinking while you are thinking in order to make

your thinking better: More clear, more accurate, or more defensible."

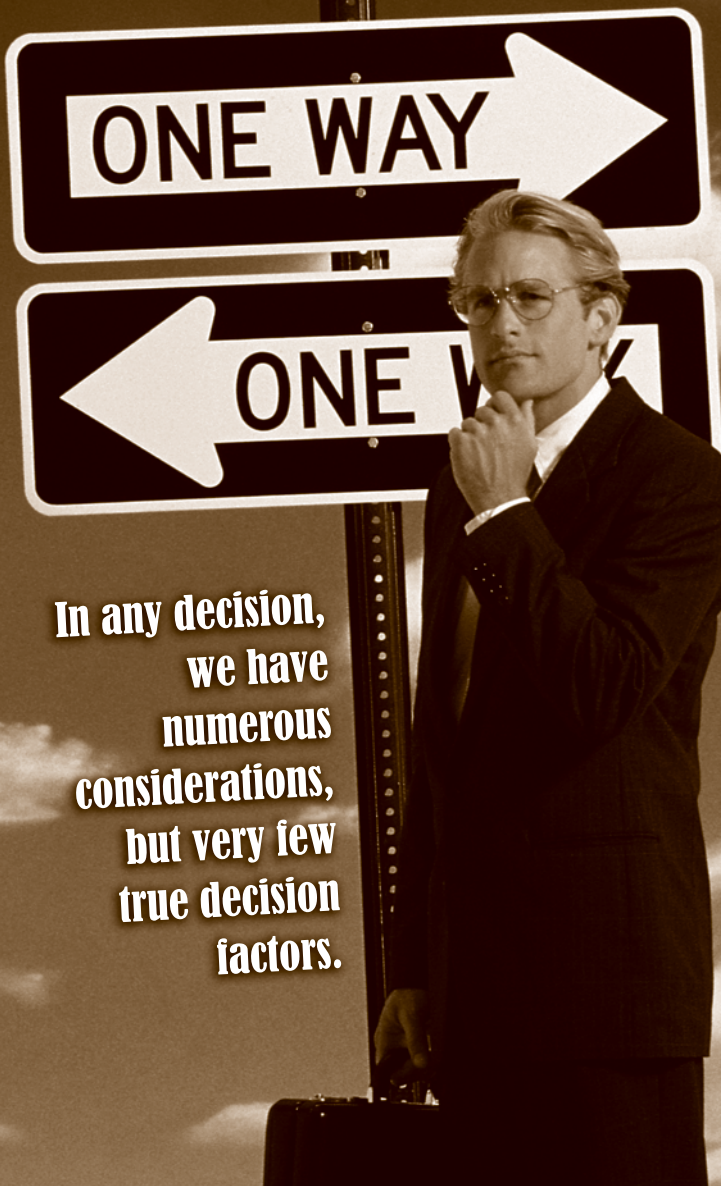
Let us consider the *Critical Thinking Handbook* definition with a little more scrutiny. The wording is clever and illustrative of the concept, but it resonates of being too witty and somewhat obvious. Being a meat and potatoes type of guy, I don't see the meat. Where is the substance? How can you think about your thinking? What questions do you need to ask yourself? What do you need to examine, and is there a validation process? I've found the best way to analyze my own thinking is to review the process I've followed when making a previous decision.

Think about a difficult decision you recently had to make. Once you have that decision in mind, ask yourself this question: What factors did I consider when I made this decision? I'm sure you can document an extensive list of things you considered. Now whittle down the list to the three or four factors that really determined your decision. In any decision, we have numerous considerations, but very few true decision factors. Using your wonderfully clear 20/20 hindsight, list any factors you can think of now that you should have considered, but didn't. You



When attempting to understand a situation or problem set, people typically consider only viewpoints within their normal sphere of experiences or expectations.

have to be honest here. Considering both sets of factors, why did you focus on particular factors and ignore others? Why did you fail to consider factors that you now realize should have been taken into account? Do you see any biases in your thinking or prejudgments that may have subconsciously driven your thinking in a particular direction? If you're like most of us, several of the unconsidered factors were based on assumptions that you treated as solid facts.



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Problems in Making Assumptions

Let me provide an example. Several days ago, I received a voicemail from my son, Brian, asking me to call him. I called, and he didn't answer his phone. A few minutes later, I called my wife, who was out of town on business. During our conversation, I mentioned that Brian had just called. My wife told me, "Oh, Brian wants to pick up Anya from daycare." "Okay," I said. Since I didn't have to pick up Anya, I worked late. At about 6:45, I got a frantic phone call from my wife, "The daycare center just called. Where are you? You had to pick-up Anya by 6:30." I was shocked because I believed Brian was picking up Anya. Based on the earlier conversation with my wife, in my mind, I turned an assumption into a fact. I was positive that Brian had picked up Anya. Gaining an understanding of why you treated certain assumptions as facts will provide insight into your biases which are an integral part of the "thinking about your thinking" process. What bias caused this problem? Because my wife normally arranges

for Anya's pick-up, without thinking, I accepted her statement as an affirmation that Brian was getting Anya rather than just passing along Brian's request.

In thinking about your assumptions, were there any assumptions that were just plain wrong? Why were they wrong? Your analysis could uncover a number of possibilities. Perhaps you didn't fully understand the situation or environment, or you had incorrect information or data. Perhaps you didn't think the information was important enough to consider? Did your biases or predispositions play a part in making the wrong assumption(s)? Did you attempt to confirm those assumptions, or did you fall into the trap of treating assumptions as if they were facts? Invalid assumptions can be devastating to a program, especially if your decision would have changed if you made the opposite assumption. I call these critical assumptions. In improving your thinking by making it more critical, it is important to be cognizant of your inclinations and proactively regulate their influence. Recognizing assumptions for what they are, analyzing the criticality of them, and then seeking to validate those that are critical to the success or failure of the actions stemming from your decision are very powerful thinking tools.

Eliminate Biases

Another question to ask yourself is "Was I wearing blinders?" This question is similar to those related to biases, but sufficiently different enough to warrant a separate consideration. Here, we want to think about other viewpoints of the situation that we may have overlooked or were unaware. Ask yourself, "Did I capture and weigh the positive and negative impacts to other people or departments?" It is not uncommon in the aftermath of a decision to discover unconsidered adverse consequences. Uncovering how and why they were overlooked can provide insight regarding your predispositions and reveal more about your thinking process. As Alan Kay, one of the inventors of the Smalltalk programming language and one of the fathers of the idea of object-oriented programming, said, "Perspective is worth 80 IQ points."

There are other questions to ask yourself in order to refine and strengthen your thinking process. Questioning yourself boosts your personal insight into your biases, prejudices, and blind spots—and all are factors that inhibit critical thinking. My personal definition of critical thinking is "questioning, analyzing, and considering all aspects bearing on a situation, including facts, assumptions, biases, reasoning, perceptions, inferences, and ways of thinking." In questioning your reasoning process, critical thinking more objectively delineates how and what you take into account when analyzing your thinking.

Critical Thinking in Acquisition

If we now turn our attention back to the place of critical thinking in the acquisition process, we can recall that I

GREAT MOMENTS IN ACQUISITION HISTORY



1823: The U.S. Cavalry and U.S. Navy discover the challenges of joint development and acquisition

By Dan Ward, Chris Quaid, Gabe Mounce, and Jim Elmore

noted earlier that the defense acquisition process is complex, requiring the decision maker to balance a multitude of factors in a dynamic environment. Critical thinking in acquisition is a multiple-step process that considers multiple factors and viewpoints. It requires several diverse skills, such as creativity; analysis and decision making; and the incorporation of strategic, tactical, resource, and political considerations. Prioritization of goals, objectives, decision factors, and stakeholder concerns is an integral part of the process, along with allowing for unintended consequences.

Creativity is tied to divergence and out-of-the-box thinking and is an integral part of the problem-solving, decision-making, and critical-thinking processes. When attempting to understand a situation or problem set, people typically consider only viewpoints within their normal sphere of experiences or expectations. That creates a “been there and done that” attitude, stymies critical thinking, and may result in solving a non-existent problem while ignoring the real problem. Don’t fall into this trap. Creative thinking asks several questions regarding what assumptions have been made and how they may influence the decision.

Creativity can pay rich dividends when determining and balancing decision factors and considerations. Earlier, I mentioned that most people consider many factors when making a decision, but only think about the consequences of two to four factors when making a decision. Too often, people instinctively believe that these few factors carry the most weight, but the factors that are most critical

should not be identified instinctively. Rather, they should be consciously considered and analyzed, and then chosen carefully with full prudence. A deliberate approach is warranted and so you should ask yourself, “How did I determine the factors in my last decision? Was it happenstance or thoughtful? Was it business as usual or genuine analysis?” As Albert Einstein is reputed to have said, insanity is “doing the same thing over and over and expecting different results.”

These are challenging times, and they require innovative decisions and approaches. The only way to uncover imaginative approaches is to modify our thought processes by reflecting and understanding our thinking. I’ve addressed several fundamental aspects of critical thinking, and there are many more, including intellectual neutrality, logical progression, and consequence correlation. But the principal aim here is to persuade the reader that all of us are capable of engaging in critical thinking and that getting started in the process can be easier than you may have thought. The more you understand why you think as you do and make a conscious effort to remove bias and predisposition, the better decisions you will make. Difficult times require innovative thinking and sound decisions, and those require critical thinking.

The author welcomes comments and questions and can be contacted at john.f.horn@lmco.com.

Too Busy To Think

Cost, Consequences, and Causes of Multitasking Mania

Lon Roberts

The theoretical physicist John Wheeler is credited with quipping that “time is nature’s way of keeping everything from happening all at once.” Aside from the humor in this remark, it contains an element of truth that is relevant to the subject of this article. In our quest to compress project schedules, individual project team members are required to execute multiple concurrent tasks—often with little consideration of the practical limits for doing so. But when a so-called knowledge worker says, “I’m too busy to think,” we need to pay attention to why this is so and what it suggests—even if it is said in jest. After all, humor is often a mirror of reality.

Over the past several years, there has been a wealth of research on multitasking as it pertains to human abilities and behaviors. Many of the issues this research has attempted to address are (or should be) matters of concern to program managers, project managers, and individual contributors. In this article, I will share some of what I have distilled from the research as well as practical insights from my personal experience as a project manager and consultant. It is not intended to be a diatribe against multitasking. On the contrary, my hope is that it will shed light on how to multitask more effectively, beginning with exposing some of the misperceptions regarding multitasking effectiveness. My goals are to plant some seeds that program managers, project managers, and individual contributors can use for ensuring multitasking is done purposefully and sanely, and to counter conventional thinking and laissez-faire behaviors that sustain undisciplined multitasking and often lead to a frenetic condition I call multitasking mania.

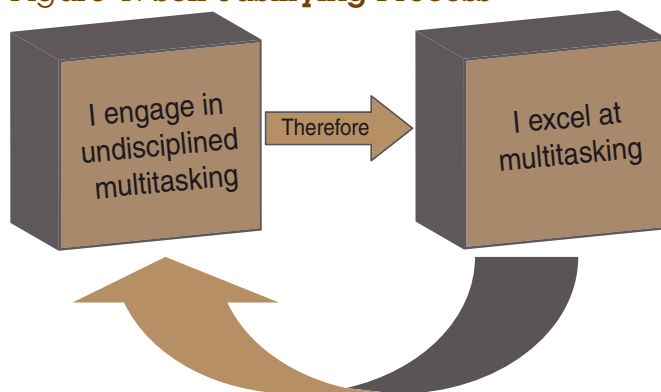
How to Make a Pig Sing

Picture this. You are sitting in your vehicle in the left turn lane, waiting behind a car in which the driver is deeply engaged in a cell phone conversation. When at long last the green arrow comes on, this distracted driver doesn’t notice—not, that is, until the arrow turns yellow, at which point he/she accelerates through the intersection, causing you and those behind you to miss your turn. From that person’s perspective, all is well. But, the same can’t be said for you and the others who experience the impact of this person’s behavior. This frustrating but familiar scenario is

emblematic of the perceptual disconnect between people who engage in undisciplined multitasking and those who are impacted by such behavior. In a project environment, this ripple effect can have much greater and more serious consequences than mere frustration.

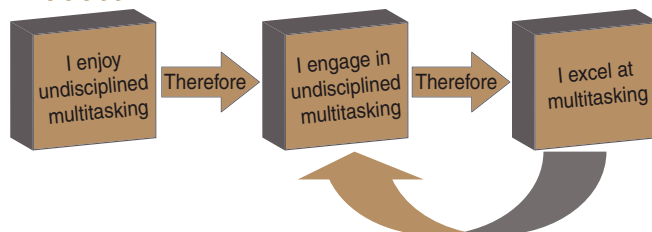
Like the pig that sees itself as singing when it is engaged in what sounds like squealing to humans, individuals tend to judge their multitasking effectiveness on the basis of self-perception, which is often reinforced by a form of inverse logic that says, “I engage in undisciplined multitasking, therefore I’m good at it.” Figure 1 provides a depiction of this self-justifying process.

Figure 1: Self-Justifying Process



Even more subtle and difficult to deal with on an objective basis is an addiction to the endorphin high that some experience from repeated engagement in a chaotic multitasking frenzy. This twist on the self-justifying process is depicted in Figure 2.

Figure 2: Self-Propelled, Self-Justifying Process



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This discussion of vocally challenged pigs and self-perception leads me to two important points that can be summarized as follows:

Point 1: We tend to judge our personal effectiveness at multitasking at a higher level than an objective observer would be likely to do.

Point 2: In a team environment, multitasking effectiveness is best judged by those who are affected by the consequences of the multitasker's actions. Multitasking propensity does not necessarily equate to multitasking proficiency.

I must confess that I don't know the secret to making a pig sing, but I do know there is no hope in even getting it to try if the pig doesn't believe it is important to do so, and if it is firmly convinced it already possesses this ability.

Antics with Semantics

When the subject of multitasking comes up in casual conversation, someone invariably points out that he or she is quite capable of walking and chewing gum at the same time. While this may, indeed, be true when it comes to multitasking capability, it trivializes the issue by equating rote tasks to complex cognitive tasks.

In response to this remark, I often point out that it is also possible to drive a car and listen to the radio at the same time. Nevertheless, when we find ourselves behind the wheel in a tense traffic situation, we are apt to reach over and turn down the volume on the radio. It's a scenario that almost every adult who has driven a car can identify with. Instinctively, we seem to recognize that even a seemingly passive activity, such as listening to the radio in the background, requires cerebral resources that need to be freed up when intense concentration is required.

These contrasting circumstances—rote tasks versus complex cognitive tasks—highlight the fact that multitasking means different things to different people. For instance, the tasks an emergency room nurse engages in differ significantly, both in form and substance, from those of a project manager. Nevertheless, when it comes to multitasking and the demand on cerebral resources, research supports the somewhat common-sense assertion that nurses and project managers have more in common than either of these share with multitasking of the variety that involves walking and chewing gum.

This leads me to make the following points:

Point 3: If you truly excel at multitasking, this may say more about the level of cognitive complexity of the tasks you are engaging in than your multitasking ability in general. Unlike complex cognitive tasks, rote tasks are not regulated by the executive control system located in the



Effective multitasking management
is ideally a shared responsibility
between the individual and his or her
manager, and both work in concert to
achieve successful end results.

prefrontal region of the brain and, consequently, can be processed in the background or without conscious intervention.

Point 4: When it comes to juggling complex cognitive tasks, research has shown that humans actually engage in rapid task switching rather than concurrent multitasking. Thus, when it comes to multitasking that requires conscious intervention, there is some degree of on/off switching cost—a cost with genuine consequences, such as context loss and recovery, that need to be weighed against the benefits when multitasking is deemed necessary and desirable.

Point 5: With practice, complex cognitive tasks tend to become programmed into the brain as routine, consequently bypassing the bottleneck posed by the brain's executive control system. This factor is instrumental in relying on experience to offset the gradual decline in multitasking ability as we age.

When it comes to multitasking, semantics matters. The fact that confusion abounds is reflected in numerous job ads and position descriptions. For example, the following excerpt, describing the partial skill requirements for a cer-

A Six-pack of Tips for Defense AT&L Authors

1 Look at back issues of the magazine. If we printed an article on a particular topic a couple of issues ago, we're unlikely to print another for a while—unless it offers brand new information or a different point of view.

2 We look on articles much more favorably if they follow our author guidelines on format, length, and presentation. You'll find them at www.dau.mil/pubs/dam/DAT&L%20author%20guidelines.pdf.

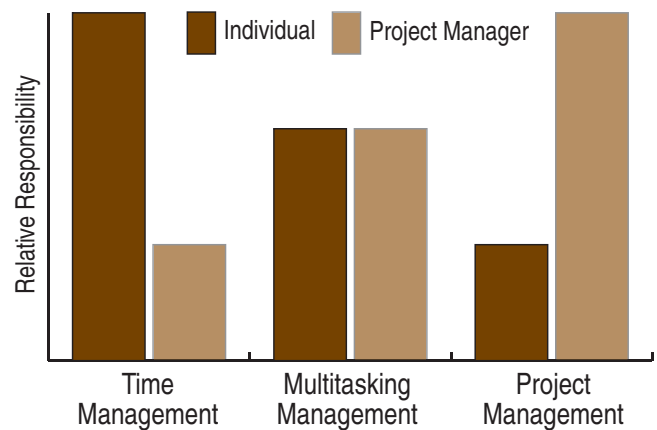
3 Number the pages in your manuscript and put your name on every page. It makes our life so much easier if we happen to drop a stack of papers and your article's among them.

4 Do avoid acronyms as far as possible, but if you must use them, define them—every single one, however obvious you think it is. We get testy if we have to keep going to acronymfinder.com, especially when we discover 10 equally applicable possibilities for one acronym.

5 Fax the *Certification as a Work of the U.S. Government* form when you e-mail your article because we can't review your manuscript until we have the release. Download it at www.dau.mil/pubs/dam/DAT&L%20certification.pdf. Please don't make us chase you down for it. And please fill it out completely, even if you've written for us before.

6 We'll acknowledge receipt of your submission within three or four days and e-mail you a publication decision in four to five weeks. No need to remind us. We really will. Scout's honor.

Figure 3: Distribution of Responsibility



tain technical project manager position, is representative of numerous others that I have encountered:

- Precise attention to detail
- Ability to multitask and prioritize.

Aside from the fact that multitasking mania is virtually synonymous with the inability to prioritize, the relative incompatibility of these two requirements—at least for the kind of tasks a technical project manager is apt to engage in—will likely put the successful job candidate in a serious bind if the requirements are enforced to the letter. I don't believe it's a stretch to add that whenever job performance does not live up to job expectations, project task durations will almost certainly be underestimated, making schedule and budget overruns inevitable.

The Cost of Doing Busy-ness

Much has been written in the popular press over the past decade about the potential cost and consequences of undisciplined multitasking. For instance, in a July 19, 2004, *Los Angeles Times* article titled "We're all multi-tasking, but what's the cost?" the author lists as examples, "shoddy work, mismanaged time, rote solutions, stress and forgetfulness. ... car crashes, kitchen fires, forgotten children, near misses in the skies and other dangers of inattention." This same article cites the insightful research of University of Michigan psychologist, David E. Meyer, who adds to this list the possibility of "shorter attention span, poorer judgment, and impaired memory." All in all, not a very favorable report card!

Particularly relevant to project managers is the cost premium associated with task switching in two circumstances: when a task is interrupted in mid-stream (such as in response to a phone call) and when bouncing between two or more major tasks (often in support of multiple projects). As different as these circumstances are, they are alike in the sense that there is a cost associated when you stop one task, start another, and resume the first task sometime later. In the first case, the cost can translate



Undisciplined multitasking is a condition that can easily spiral out of control.

into diminished response time—a factor that is especially relevant when reaction time matters—or it can prolong the duration of a task above and beyond the time spent responding to the interruption. In the second case, the cost translates to a loss of context and perhaps the need for rework as a result of a breach of continuity. For the sake of distinguishing between these two cost factors, I refer to the task types they pertain to as micro-tasks and macro-tasks, respectively.

An important aspect of sane multitasking is a clear understanding of the cost and consequences. The following points summarize a couple of rules of thumb that may be beneficial in assessing the cost associated with multitasking in a project environment.

Point 6: Pertaining especially to micro-tasks, research has shown that the task-switching premium can add 25 to 50 percent to the duration of a task, depending on the complexity and novelty of the task. This often takes the form of distractions or interruptions that can derail an important train of thought. Though interruptions are inevitable and sometimes desirable, project managers are advised to take proactive measures to create and foster a project environment that minimizes disruptive interruptions, starting with their own behaviors.

Point 7: When it comes to macro-tasks, the loss of efficiency from sharing a knowledge worker between two tasks has been estimated to range between 7 and 10 percent. The potential for loss of continuity is greatest when task bouncing occurs at a point in the task where context recovery at a later time is likely to be a challenge, necessitating rework that often starts with the question, “Where was I?”

The Buck Stops Where?

Multitasking management—when it is done sanely—is a shared responsibility of the individual and his or her manager. This is in contrast to time management, which typically falls on the shoulders of the individual, and project management, which is primarily the responsibility of the project manager. A model of the distribution of responsibility for managing time, tasks, and projects is depicted in Figure 3. For a specific project, the distributions may not be identical to those shown in Figure 3, but the apportionments generally follow this pattern.

At this juncture, I need to take a step back and make clear the point that *effective* multitasking management is ideally a shared responsibility between the individual and his or her manager, and both work in concert to achieve successful end results. Unfortunately, in practice, it often falls on the shoulders of the individual to make it work for him or herself, leaving unaddressed the systemic factors that foster multitasking mania. Even though multitasking is an individual behavior, the manager bears responsibility for creating an environment in which multitasking mania is allowed to exist and persist.

This discussion of roles and responsibilities, tied to the need to take proactive measures to overcome the inertia that sustains multitasking mania, leads me to my eighth and final point:

Point 8: Effective multitasking is a product of discipline, mutual respect, effective work habits, and a brain-friendly work environment—to name a few. It will not come to pass unless, and until, individuals and their managers acknowledge that undisciplined multitasking is a genuine concern and then take responsibility for their contribution to the problem and the solution.

Barring purposeful intervention, undisciplined multitasking is a condition that can easily spiral out of control. Once that occurs, what is generously labeled as a high-energy work environment may in reality be a frenetic state of affairs in which highly skilled knowledge workers are quite literally too busy to think.

The author welcomes comments and questions and can be contacted at lon@r2assoc.com.

Step Up to the Podium

Guidelines for a Good Project Presentation


Wayne Turk

Let's face it—as a project manager, or even as a team member, you are going to have to give briefings or presentations at some time. It may be to your boss or your boss's boss, to future users of your product, or to your peers. It may be a milestone briefing. In fact, you could be speaking to an audience for any of a dozen reasons. There are some simple keys to a successful presentation.

We've all suffered through painful presentations. We've listened to the mumbler, the reader, the statue, the unprepared, and the boring. We've seen slides that you couldn't read, slides that didn't apply, slides with obvious errors, and slides that failed because they used too many tricks. You don't want people to suffer when you present, do you? So let's look at some ways to make a good presentation.

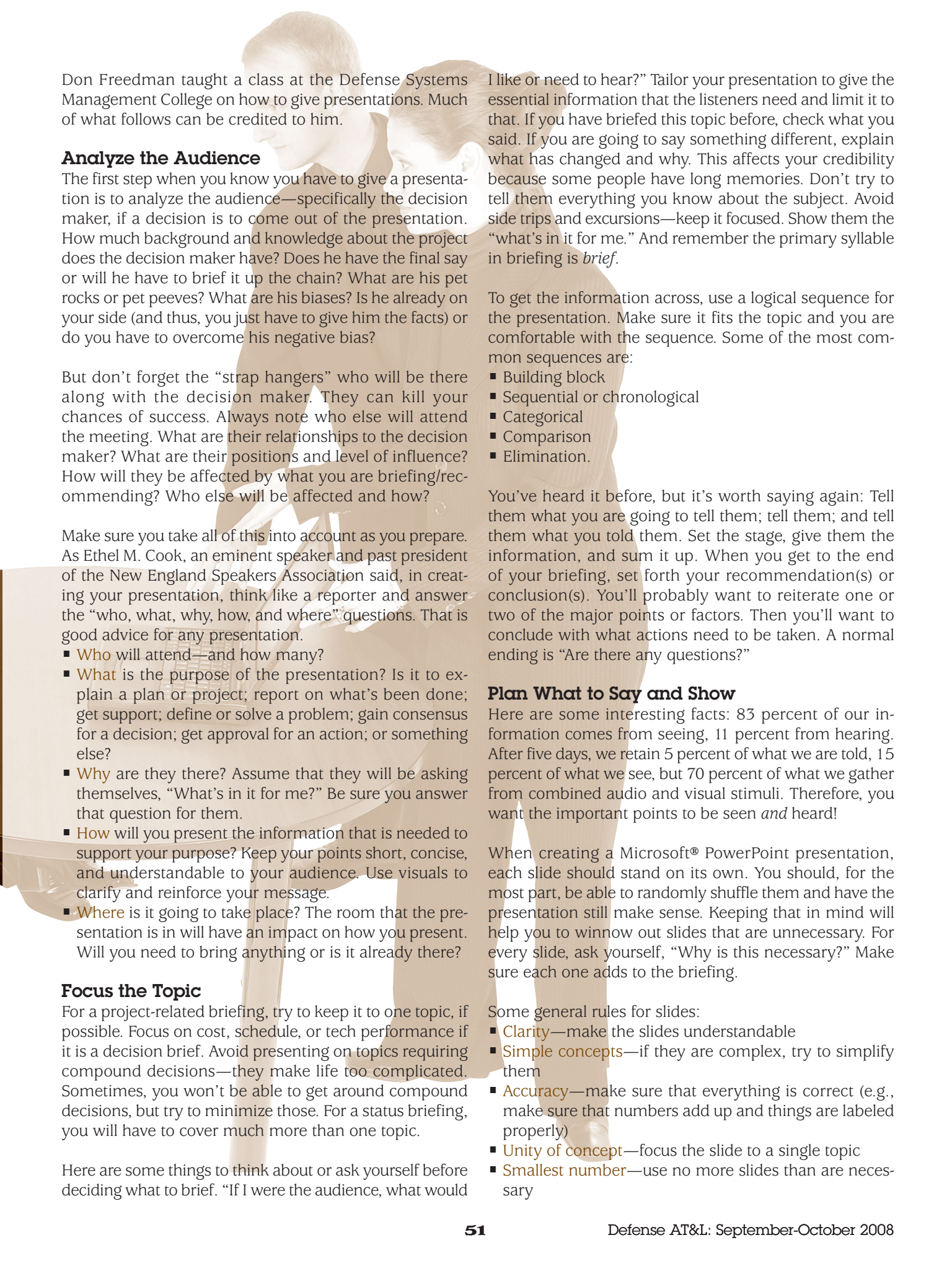
Before going any further, I want to point out that this article is limited to the kinds of presentation you might make as a PM, not presentations for a class, a large conference, or as a keynote speaker. Most of the guidelines are similar, but there are a few distinct differences. The focus here is on decision briefings, status briefings, and other project-related presentations.

Matthew Tropiano, in a previous *Defense AT&L* article ("Aristotle and the Art of Successful Presentations," May-June 2006), wrote about ethos, pathos, and logos, and how they affect your success as a briefer. Ethos is your personal credibility as the speaker. Pathos is your ability to connect with the audience. Logos is the substance of the presentation—the words, organization, and logic. This article will give you some help in raising the level of ethos, pathos, and logos for your briefings as well as some other suggestions. It augments Tropiano's article with some specific guidelines. Remember, though, that the guidelines here are just that—guidelines.



You don't want people to suffer when you present, do you?

Turk is an independent management consultant with Suss Consulting. A retired Air Force lieutenant colonel and defense contractor, and the author of *Common Sense Project Management* (ASQ Press, 2008), he is a frequent contributor to *Defense AT&L*.



Don Freedman taught a class at the Defense Systems Management College on how to give presentations. Much of what follows can be credited to him.

Analyze the Audience

The first step when you know you have to give a presentation is to analyze the audience—specifically the decision maker, if a decision is to come out of the presentation. How much background and knowledge about the project does the decision maker have? Does he have the final say or will he have to brief it up the chain? What are his pet rocks or pet peeves? What are his biases? Is he already on your side (and thus, you just have to give him the facts) or do you have to overcome his negative bias?

But don't forget the "strap hangers" who will be there along with the decision maker. They can kill your chances of success. Always note who else will attend the meeting. What are their relationships to the decision maker? What are their positions and level of influence? How will they be affected by what you are briefing/recommending? Who else will be affected and how?

Make sure you take all of this into account as you prepare. As Ethel M. Cook, an eminent speaker and past president of the New England Speakers Association said, in creating your presentation, think like a reporter and answer the "who, what, why, how, and where" questions. That is good advice for any presentation.

- **Who** will attend—and how many?
- **What** is the purpose of the presentation? Is it to explain a plan or project; report on what's been done; get support; define or solve a problem; gain consensus for a decision; get approval for an action; or something else?
- **Why** are they there? Assume that they will be asking themselves, "What's in it for me?" Be sure you answer that question for them.
- **How** will you present the information that is needed to support your purpose? Keep your points short, concise, and understandable to your audience. Use visuals to clarify and reinforce your message.
- **Where** is it going to take place? The room that the presentation is in will have an impact on how you present. Will you need to bring anything or is it already there?

Focus the Topic

For a project-related briefing, try to keep it to one topic, if possible. Focus on cost, schedule, or tech performance if it is a decision brief. Avoid presenting on topics requiring compound decisions—they make life too complicated. Sometimes, you won't be able to get around compound decisions, but try to minimize those. For a status briefing, you will have to cover much more than one topic.

Here are some things to think about or ask yourself before deciding what to brief. "If I were the audience, what would

I like or need to hear?" Tailor your presentation to give the essential information that the listeners need and limit it to that. If you have briefed this topic before, check what you said. If you are going to say something different, explain what has changed and why. This affects your credibility because some people have long memories. Don't try to tell them everything you know about the subject. Avoid side trips and excursions—keep it focused. Show them the "what's in it for me." And remember the primary syllable in briefing is *brief*.

To get the information across, use a logical sequence for the presentation. Make sure it fits the topic and you are comfortable with the sequence. Some of the most common sequences are:

- Building block
- Sequential or chronological
- Categorical
- Comparison
- Elimination.

You've heard it before, but it's worth saying again: Tell them what you are going to tell them; tell them; and tell them what you told them. Set the stage, give them the information, and sum it up. When you get to the end of your briefing, set forth your recommendation(s) or conclusion(s). You'll probably want to reiterate one or two of the major points or factors. Then you'll want to conclude with what actions need to be taken. A normal ending is "Are there any questions?"

Plan What to Say and Show

Here are some interesting facts: 83 percent of our information comes from seeing, 11 percent from hearing. After five days, we retain 5 percent of what we are told, 15 percent of what we see, but 70 percent of what we gather from combined audio and visual stimuli. Therefore, you want the important points to be seen *and* heard!

When creating a Microsoft® PowerPoint presentation, each slide should stand on its own. You should, for the most part, be able to randomly shuffle them and have the presentation still make sense. Keeping that in mind will help you to winnow out slides that are unnecessary. For every slide, ask yourself, "Why is this necessary?" Make sure each one adds to the briefing.

Some general rules for slides:

- **Clarity**—make the slides understandable
- **Simple concepts**—if they are complex, try to simplify them
- **Accuracy**—make sure that everything is correct (e.g., make sure that numbers add up and things are labeled properly)
- **Unity of concept**—focus the slide to a single topic
- **Smallest number**—use no more slides than are necessary

- **Pertinence**—ensure the slide relates to the point you want to get across
- **Format consistency**—use the same basic format throughout (some variety can help keep it interesting, but it also can detract from the main points).

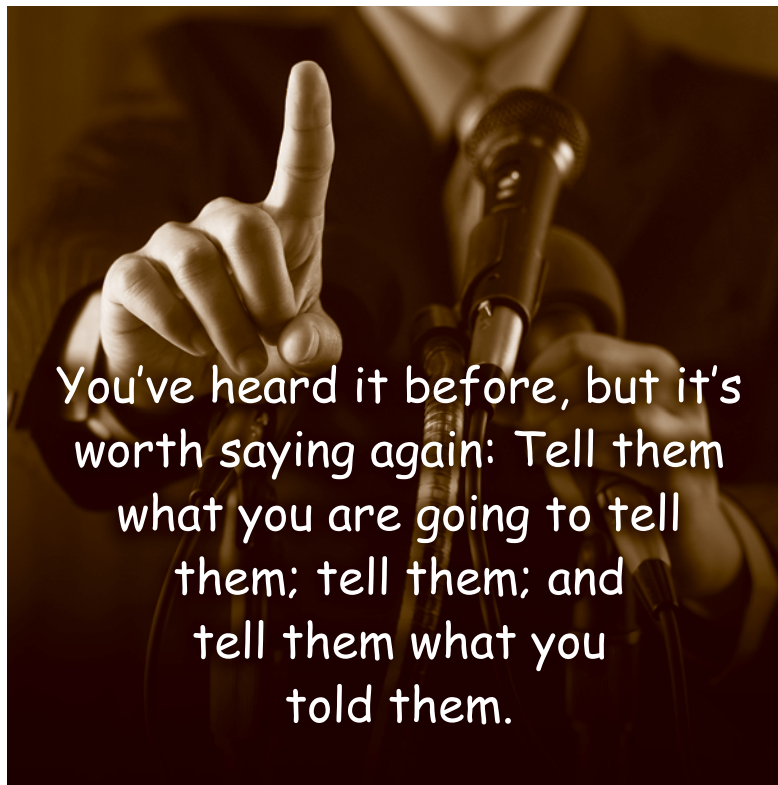
Here are some rules for the individual slides:

- No more than three main points.
- A maximum of eight lines per point (some people say no more than five lines).
- Use 25 to 30 words per slide.
- Simple (sans serif) font—Arial is a good choice.
- Use both upper and lower case.
- For bullets or numbers, your points should not be full sentences, but should be short highlights.
- They must be readable! Use big fonts (at least 18-point type), especially for figures. Also, use thick lines for graphs. It is good to test your slides in real conditions to see if they are readable. If that isn't possible, try putting a printed slide on the floor and see if you can read it while standing above it.
- Slides should be landscape orientation.
- Use strongly contrasting colors and avoid dark backgrounds. Avoid red and green combinations, which colorblind people often can't distinguish.
- For figures/graphs, include legends and units that make clear what is good and what is bad. Include some kind of reference plot/point/numbers (something for comparison).
- Each slide should have a title and a slide number (except the title page).
- Use transition charts. Transition charts prepare the audience for what is next.

That's more than enough on your slides. Let's move on to other things.

Practice, Practice, Practice

You have your topic, you've built the slides, and you know what you want to say. What's next? Practice, of course. It helps to dry run the presentation on someone who will give you honest feedback. The person can help



you find problems with the slides, the organization, or the overall presentation and how you come across. As you practice, listen to what they have to say about how you did. Then try it again. Do it until it is right.

Giving the Presentation

This is the moment of truth. If you have done the appropriate preparation, giving the presentation will be a breeze. You just have to stand up there and do it. One suggestion that may help you: Put paper copies of your slides

in front of you, keeping them face up. As you change slides, move the current slide across to a second pile, keeping it face up. Then you can tell at a glance what your current slide is without having to turn round and read the screen. It also will show you what the next slide is, so you can change to it at the right moment.

Some people can give their presentation with no notes. Most people can't. It might be a good idea to put notes on your paper copy (in large print). Don't feel embarrassed about using the slides as notes, or even having cards with notes. Just don't use your notes as a script. They should be memory aids, used to jog your memory about what you wanted to say.

During your presentation, face your audience. Try to face the screen as little as possible. Remember, you are presenting to the people in the room, not to the screen. In the same vein, don't stare at the table, lectern, floor, or your notes. Look at your audience. This might be tough, but making eye contact adds to your credibility. You can also tell if you are losing them. Use gestures and movement, but don't overdo it or try to choreograph them.

Make sure you don't read the slides word for word. The slides should reinforce what you say, not the other way around.

When briefing, speak up and speak clearly. Explain what acronyms mean unless you are 100 percent sure that your audience will understand them. In project management,

especially in DoD, acronyms and jargon are a way of life, but the same acronym doesn't always mean the same thing to everyone in the audience; and jargon, especially technical jargon, can lose people quickly. So simplify your language. Make it easy to understand. Get rid of the gobbledygook and 25-cent words. Your goal is not to impress listeners with your vocabulary. Your goal is to communicate—as clearly as possible.

Most experts say that for a long presentation, each slide should be up 2 to 4 minutes; for a short one, 1 to 2 minutes. Of course, this depends on the complexity of what is being presented. Rarely should a slide be up for less than a minute.

You have to know the material you are presenting. You are the expert on the project. Be ready for questions at any time. Of course, the best answer to a question is, "Next chart please." That shows you have the listener thinking the same way you are. It is also a good idea to prepare backup slides to answer anticipated questions. This is very helpful if the answer is complex and a slide can help clarify it. If the question doesn't come up, you don't have to show the backup slide(s). If you get a question that you don't know the answer to, say, "I don't know, but I will find out and get back to you." Trying to waffle or make up an answer on the fly will just get you in trouble. We've all seen that happen.

Getting Over Your Nerves

Being nervous is normal. Here are some additional tips on how to control nervous jitters:

- Relax. Take a deep breath. When nervous, we have a tendency to breathe shallowly. If you concentrate on breathing deeply, you'll get enough air to speak and ease your panic.
- If you forget what you were going to say, don't panic. Just stop, look at your notes or the slide, and find your place. Then go on. The audience will forgive you.
- Use good posture, but don't be a statue. We have more power and energy when we stand erect with weight balanced equally on our feet. It also helps your credibility. Adding a little movement helps make it more interesting.
- Concentrate on the message, not on how you think that you are coming across. Look convinced. Act convinced, even if you're not. You are the salesman for your project.
- Learn to laugh at yourself. The problems that occur during presentations can be funny (e.g., you trip, the equipment doesn't work, you find some of lunch on your shirt) and it gets the audience on your side if you can laugh.
- Build in appropriate humor (not jokes). The accent is on appropriate.



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that you are presenting.
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Speaking of humor, everybody loves humor, but you have to be careful. Not everyone has the same sense of humor. Most of the time, PMs don't need to include much humor in their briefings. It is great if you can slip a little appropriate humor into the presentation, but don't push it. Humor keeps it more interesting for the audience. But if you are giving a status briefing to your boss and the project is behind schedule, over budget, or not meeting technical requirements, it might not be too good of an idea to joke about it.

As a PM, you are going to have to give briefings. There is no way around it. Okay, if you are creative and have good people working for you, it might be possible, but it's not a good idea to skip giving the briefings. You need to be the spokesman for the project. The bottom line is you need to prepare, practice, and present. The more that you do it, the better you'll get. Just take the guidelines here to heart, listen to the feedback that you get, and strive to improve with each new opportunity—and you'll be okay. Briefing an audience never killed anyone, and it can help your project and your career if you do a good job.

The author welcomes comments and questions
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To Boldly Go ... Into Defense Acquisition

The Program Manager's Rules of Acquisition

Brian J. Duddy

Fans of the television show *Star Trek: Deep Space Nine* will immediately recognize the recurring theme of “The Rules of Acquisition.” In the *Star Trek* universe, The Rules of Acquisition are promulgated by a ruthlessly entrepreneurial species known as the Ferengi. There are supposedly 286 existing rules covering everything from negotiation techniques to risk management, but most focus on profit, which is the main concern of the Ferengi. If you haven’t been exposed to the Rules of Acquisition, many are very entertaining, and I urge you read them. I’ll cite a few in this article for your benefit.

Several of the Rules of Acquisition are worth heeding for those of us who boldly go into defense acquisition. A few apply directly to our business such as:

- Rule of Acquisition Number 3: *Never spend more for an acquisition than you have to.*
- Rule of Acquisition Number 62: *The riskier the road, the greater the profit.*
- Rule of Acquisition Number 218: *Always know what you’re buying.*

They are as true today as they will be in the 24th century. Several—such as Number 192: *Never cheat a Klingon, unless you can get away with it*—are somewhat less useful to us in this century.

Having seen acquisition from both the government and industry sides of the aisle, I would offer two additional Rules of Acquisition to benefit to all parties in our little corner of the galaxy.

Rule of Acquisition Number 287: You’re the program manager. It’s YOUR statement of work.

The heart of the government-contractor relationship on any particular program is the statement of work. Too often, everyone involved in the program considers this document more of a nuisance than a touchstone. But as a program manager, it is the founding document in the

The statement of work is your best tool to define the bounds of the program, and it will live on long after you have moved on to the next star system.

relationship. It doesn’t belong to the chief engineer or the contracting officer; it belongs to you, the program manager. As a program manager at any level, preparing the statement of work correctly is your responsibility and should be a top priority as you develop your acquisition strategy.

A good, well-written, and understandable statement of work will allow the contractor to quickly grasp program requirements and more accurately assess risk. That results in better proposals and shortens contracting and acquisition timelines. A poor statement of work only leads to confusion, arguments, and uncertainties throughout the term of program. Too often, both parties think they know what the other party wants or will commit to doing, so they don’t bother to put it down on paper. But as programs evolve and people transfer, the folks who come later are left to pick up the pieces and try to guess what to do or what the originators had in mind. To the extent possible, (coincidentally, a bad statement of work phrase) government program managers should review a draft statement of work with their contractor counterparts to ensure all the bases are covered and there are no areas that are likely to be misinterpreted.

An Effective Handbook

Although dated, MIL-HDBK 245 on statements of work is still very useful and contains a wealth of relevant guidelines—especially a series of do’s and don’ts that are the product of years of experience and lessons learned. For

Duddy is a retired Air Force lieutenant colonel and a former Defense Acquisition University instructor. He is now a program manager at the Rochester Institute of Technology manufacturing research center.

example, some do's the handbook advises: You should tailor specifications and standards to avoid over-specifying, and you should make sure you give the contractor the ability to use commercial products where appropriate. Don't establish your delivery schedule in the statement of work—there is a specific section for that in the contract, and you don't want to create the potential for a conflict. Probably one of the most important don'ts is don't tell the contractor how to do the job; tell the contractor what you want accomplished and let him figure out the most efficient way to get it done under the cost and schedule constraints. As far as possible, follow the standard statement of work format described in MIL-HDBK 245. It's well-known and assists the reviewers and implementers in locating all the relevant requirements. Lay it out clearly for them; don't make it a hunting expedition.

It also helps to amplify the work-breakdown structure, which will lead to more effective use of earned value management. By doing that, the contractor should be able to more easily grasp the breakdown of the system, which will speed the development of work packages and cost accounts that will establish the baseline for earned value management.

There are also continuous learning modules available from the Defense Acquisition University that will help you improve your statement of work.

Use Clear Language

Especially avoid big black holes like vague requirements or open-ended statements during statement of work development. Phrases like "as required" add no value and only cause confusion—after all, you're the customer. Don't you know what you require? If the government doesn't know, how do you expect the contractor to know? In the example I mentioned in a previous paragraph, "to the extent possible" may have different meanings to both parties. Work that might seem possible to the government under the current contract funding might not be seen as possible by the contractor.

Pay careful attention to all the work words such as "design" or "construct." Spend the extra time to craft language that can be related to specific, definable actions. Avoid words that require individual judgment, drive unneeded work, or whose definition could differ in different eyes of the beholder. Words like "accurate," "properly," "neatly," or "pleasing" mean different things to different people. Remember, to one Ferengi, another Ferengi might look quite "pleasing," but not necessarily to you!

Know Your Audience

Assume your statement of work will be read and implemented by many people working on the program whom you don't know and you may never meet, such as team members in Defense Contract Management Agency who



Lay the statement of work
out clearly for the
contractor; don't make it
a hunting expedition.

may not have the same intimate knowledge of the program that you do. Is your statement of work going to be used as part of a source selection? You may have evaluators from other organizations referring to it. You owe it to all parties to be as specific and detailed as you can since you may not be present to explain it to them.

Assess your program. Will it be a competition or sole source? Will the statement of work be read by contractors who have done this type of work before, or is this a completely new effort? If you have limited opportunities to dialogue with potential bidders, take the time to ensure your narrative is complete so they can grasp the big picture. Try to put yourself in the shoes of the bidder or contractor. What would you need to know to do the job? Are you specifying what to do or how to do it? I've seen several instances in which both the government and the contractor said—but didn't write down—"I know what they want," or "They know what I want." Do you? Did they? The only way to be sure is to specify it in the statement of work.

If all else fails, role play. Read the draft statement of work as if you were the other party in the program. Does it make

From Our Readers

Weird Leonards: Creative, Practical, and Funny

I recently read “Weird Leonards in History” [*Defense AT&L*, January-February 2008], and like other articles that Air Force Majors Dan Ward and Chris Quaid have published, it is great: creative and practical (and funny).

I have gotten used to the fact that Ward and Quaid indeed demonstrate a great deal of courage in the string of articles they publish in a journal that is part of the DoD establishment. I am rather amazed that the editorial leadership of the journal is courageous enough to publish this material!

One suggestion: In future writing, the majors may want to demystify intuition somewhat. For example, see my book *Breaking the Code*, pp. 99-100: “Klein defines intuition as the way we translate our experience into action.”

Dr. Alex Laufer

Dean of Civil and Environmental Engineering
Technion-Israel Institute of Technology

Postmodern PM: Theory at Work

I just wanted to tell you how much I enjoyed “Postmodern PM” [by Maj. Dan Ward, Maj. Chris Quaid, and Capt. Gabe

Mounce] in the May-June 2008 issue. What a great summary of the two models and how they play out in the tensions of project management. This is truly “theory at work” in a very useful way. The authors have a gift for explaining what is generally an academic construct in way that is accessible and applicable. In my experience, that is a rare skill. My compliments—great article!

Jennifer Tucker

Consulting Director
Otto Kroeger Associates

Visual Learning

Please pass on high complements to your staff for having the foresight to embrace comics as a form of conveying new ideas in the magazine. Studies inside the U.S. Air Force have shown that the number of visual learners vis-à-vis traditional learners is growing, particularly with the workforce born in the late 1960s and 1970s. Your periodic use of comics will enhance the visual learner’s interest in the magazine and help them help themselves.

Robert D. Pollock

Director, Acquisition Chief Process Office
Assistant Secretary of the Air Force for Acquisition

NSPS: Additional Nuggets

I want to compliment Marcia Richard on her article in the July-August 2007 issue of *Defense AT&L* magazine, “National Security Personnel System: Effective Management Tool for the Mission-centered Workforce.” It was very informative, unbiased, and well-written.

At the time the article was published, I didn’t look at it very carefully because I wasn’t yet scheduled to convert over to NSPS. But now I am scheduled to convert in October, and I just took a day-and-a-half training on crafting and evaluating performance objectives. So fortunately, I recalled the article, called it up from the *Defense AT&L* magazine Web site, re-read it, and enjoyed it.

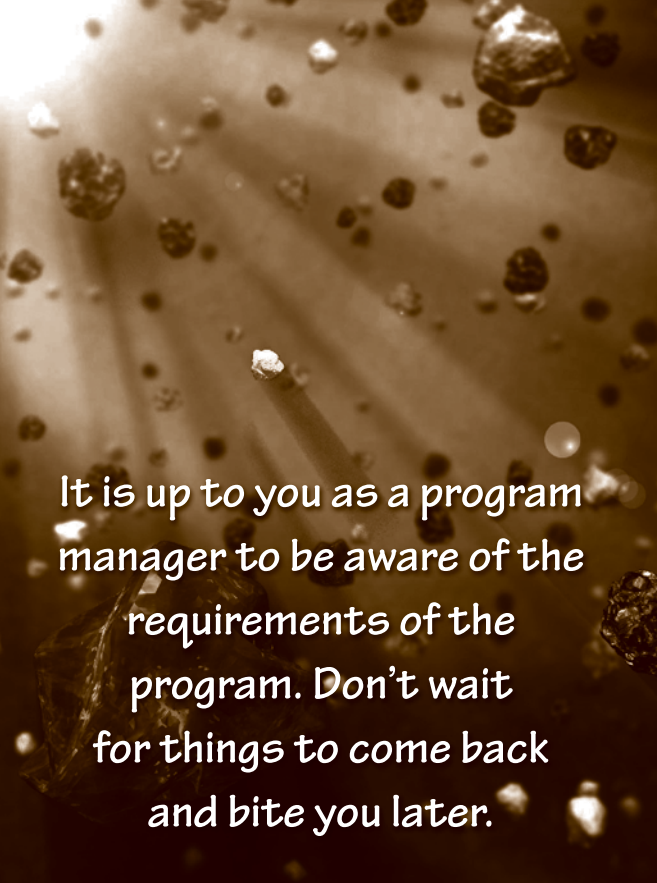
We had a very good teacher for our NSPS class, thus underscoring the imperative for good training. He was a retired employee of NAVSEA and was intimately familiar with pay-for-performance systems.

Based on the training I received, here are a couple of nuggets I would add to the article:

- We not only need to think of rewarding our top performers, we need to think in terms of our organization making our goals. If everyone in the organization makes his or her goals and those goals are aligned to the organization’s goals, then the organization should make its goals.
- We need to get away from thinking that 3 is average. Either a 2, 3, 4, or 5 rating means you made your goal. Not equating 3 with average is a big cultural change.
- Getting a 1 rating means you have jeopardized the goals of your organization—and nullified the success of other people’s goals.
- Lots of 1 and 2 ratings not only reflect poorly on the employee, they reflect poorly on the supervisor because it’s the supervisor’s job to help the employee create and meet realistic goals.

Al Kaniss

Branch Head, Software Engineering
Naval Air Systems Command



It is up to you as a program manager to be aware of the requirements of the program. Don't wait for things to come back and bite you later.

sense to you? Is it specific enough? Are there loopholes or ambiguities? Do you understand what the government wants you to do? Do you understand what you're asking the contractor to do? Are you asking for data items you will never read or use? Are you ordering photon torpedoes when a phase cannon would meet your requirements? (In other words, are you ordering something bigger than you need?)

Ask a colleague on another program or your acquisition support office to review your draft statement of work to see if you've missed anything or if the requirements are unclear. Also, if you find you've over-specified something that might end up costing too much money, better to find that out in the draft phase rather than after the program is on contract. Taking time to craft a complete and proper statement of work will save everyone time, money, and stress as you execute the program.

Commit yourself to making the statement of work a quality product (and remember Rule of Acquisition Number 8: *Small print leads to large risk.*) The statement is your best tool to define the bounds of the program, and it will live on long after you have moved on to the next star system.

Rule of Acquisition Number 288: Read the contract

Beyond the knowledge of the statement of work, all program managers should read the final signed contract from cover to cover. Don't rely exclusively on the contracting staff to point out all the unusual terms and conditions. While many will give you their full support, no one knows

the program like the program manager. It is up to you as a program manager to be aware of the requirements of the program. Don't wait for things to come back and bite you later.

Make Sure Everyone's Clear

At the first opportunity, go over the contract as a team or an integrated product team and make sure everyone is clear on not only the scope of work, but the terms, conditions, and any special requirements. Pay particular attention to the data items. For example, if you can submit data electronically, don't go through all the extra trauma of generating endless paper copies. Is there government-furnished equipment/data involved? Is it specified clearly? Is it realistic to plan for it to be delivered as promised? By reading the contract closely, you'll know if you need to build in lead time—and it's better to do it at the beginning of the program.

Verbal Agreements Aren't Enough

Once your contract has been signed and your program is under way, more than likely changes will occur—in requirements or delivery schedules or as a result of unanticipated work problems. Expect that will happen. How you manage those changes will determine how successful your program execution will be. Discussions between the contractor and the program office concerning the impact of changes are normal, but once a way ahead is decided on, follow it up with a formal contract change and get it on paper. Remember Rule of Acquisition Number 262: *A verbal contract isn't worth the paper it's printed on.* If a verbal agreement isn't written into the contract in the form of a change, it didn't happen. Make it a point to document the changes as soon as possible before other program activities get the best of you and the team forgets what they agreed to in the first place.

Give some thought to those who come after you. When you rotate out—and you will eventually—how can you expect your successors to know the substance of discussions that occurred long before they joined the program team? When you do rotate out, make a departure checklist item to go over the contract with your successor. If a problem comes up later into the program that could have been resolved earlier if all parties had read the agreement, won't you all look a bit foolish?

I'd like to tell you that knowledge of all the Rules of Acquisition will make your job easier, but as the Ferengi know, there's always Rule Number 285: *No good deed ever goes unpunished.* However, if you implement the two new Rules of Acquisition I've given you, you are sure to live long and prosper in our universe of program management

The author welcomes comments on this article and may be contacted at bjdasp@rit.edu.

In the News

ARMY NEWS SERVICE (MAY 1, 2008) RAVEN LAUNCHES NEW BATTLEFIELD PERSPECTIVE

Sgt. Amanda Jackson, USA

FORT BRAGG, N.C.—Soldiers assigned to the 3rd Brigade Combat Team, 82nd Airborne, got a hands-on perspective on the Raven, an unmanned aerial vehicle, during a 10-day Raven training course held from April 22 to May 2 at the 3rd Brigade Combat Team headquarters.

Once limited to brigade and higher level commanders, the hand-launched aircraft is one of the latest technologies to enhance warfighting capabilities, putting aerial reconnaissance tools in the hands of paratroopers on the ground.

Soldiers learned to assemble and inspect the aircraft, launch the aircraft, and operate the remote control to manage the plane's movements and cameras. The crash course is designed to give a soldier of any job or skill a basic idea of how to operate the Raven instead of relying on a UAV specialist. The course is usually a mixture of combat and non-combat paratroopers who have never touched a UAV.

At just over 4 pounds and having a span of 5 feet, this small aircraft gives its operator a full-range battlefield perspective. The Raven is equipped with three cameras: an electrical optical camera and two infrared cameras, which provide an aerial observation of 10 to 15 kilometers at altitudes up to 1,000 feet.

"When we first went over to support Operation Iraqi Freedom, we had Raven capabilities," said Spc. Gregory J. Chandler, 3rd Brigade Combat Team, 82nd Airborne Division. "What we [infantry units] didn't have was anybody to train us on it."

Although this tool of war is not meant to be treated like a video game, instructors of the course explained that gamers quickly get the concept of the Raven and its capabilities.

"It's the game people—the guys who love PlayStation® 3 and computer games—who really have a good understanding of the Raven," said chief UAV flight instructor Mike Plonski.

"It's like a gigantic video game for adults, but with real consequences in the bigger picture," he said.

By the fifth day, most of the trainees will have a pretty solid concept of the complicated aircraft, said Plonski, who has seen the progression of UAVs in the last 20 years. The hardest part of the training is launching the aircraft.

Before launching the aircraft, soldiers have to practice with baseball bats. This exercise gives each person a feel of how the Raven should be launched in order to be mission-capable.

"If you can't launch it, there's no mission," said Plonski. "So the Paratroopers launch baseball bats, which have the bottom-heavy feel of the Raven, until they are able to throw straight and far. After a sturdy launch, the aircraft takes over and pulls itself up to altitude."



Army infantryman Pfc. Kyle J. Matlack, 3rd Brigade Combat Team, 82nd Airborne Division, holds the Raven Unmanned Aerial Vehicle before launching it in the air. Paratroopers got a first-hand look at the Raven aircraft and its capabilities during Raven UAV training at Fort Bragg, N.C.

Photo by Sgt. Amanda Jackson, USA

With the Raven, soldiers are able to respond to accurate intelligence rather than an attack, said Plonski. It provides a multi-dimensional eye of the enemy, much further than what paratroopers view directly in front of them, ultimately sparing lives, he said.

Jackson serves with the 3rd Brigade Combat Team, 82nd Airborne Division Public Affairs Office.

AMERICAN FORCES PRESS SERVICE (MAY 2, 2008) **MARINES REPORT OSPREY HAS PROVEN ITSELF IN IRAQ**

Jim Garamone

WASHINGTON—The MV-22 Osprey has proven itself in Iraq, and Marine officials are applying the lessons learned in the first operational deployment of the tilt-rotor aircraft to current operations.

“We’re immensely proud of the Marines of Tilt-Rotor Squadron 263, who took on the challenging task of the first combat deployment of the Osprey,” Lt. Gen. George J. Trautman, deputy commandant for Marine Corps aviation, said.

The MV-22 takes off and lands as a helicopter, but flies like an airplane.

Trautman, squadron commander Lt. Col. Paul Rock, MV-22 pilot Capt. Sara Faibisoff, and crew chief Sgt. Danny Herrman briefed Pentagon reporters on the squadron’s deployment to Iraq. The unit deployed from Marine Corps Air Station New River, N.C., in September 2007 and returned last week.

Trautman said the decision to send the MV-22 to Iraq was the right one. It gave the Marines and soldiers in Anbar province “the best assault support aircraft” ever made, he said.

The MV-22 handled every mission it was assigned, Rock said. The unit flew more than 2,500 sorties during its seven-month deployment, with each of its aircraft flying an average of 62 hours per month. Rock said before the deployment, officials forecast each MV-22 would fly around 50 hours per month.

The aircraft was easier to maintain than the CH-46 helicopters it replaced. The 46 is 1950s-based technology, and mechanics put in 24 hours of maintenance on those aircraft for every hour in the air. The MV-22 took about 9.5 hours of maintenance for every hour of flight.

The squadron deployed with 10 aircraft. “On any given day, about seven aircraft were mission-ready,” Rock said. “That was more than sufficient to meet our daily tasks.”

The biggest surprise for the Marines was the vastly increased payload and greatly increased range the Osprey brings to the mission. Herrman said that in loading the aircraft, he would often run out of cubic space before exceeding the weight the aircraft could handle.

The range and speed of the aircraft were also pleasant surprises. Faibisoff told of flying a medical evacuation mission on Christmas Day. She picked up a Marine with a ruptured appendix in a remote base well south of Al Asad Air Base. The aircraft was able to launch and get the Marine to medical help in 56 minutes—well within the “golden hour,” a rule of thumb that gives an ill or injured person the best chance for survival if treated within the first hour of being stricken.

“We were off deck within 15 minutes of receiving the call and headed for a zone about 90 miles south of Al Asad,” she said.

Computer software makes the aircraft easy to fly, and it was able to handle the desert environment, Faibisoff said.

The aircraft flew raid operations and scout missions, and conducted tactical recovery of aircraft and personnel. The squadron also flew alert missions and casualty evacuations.

“The overwhelming majority of what we did was general support—taking people, gear, combat equipment all over the very large battlespace,” Rock said.

The combat conditions in Anbar province had improved to such a degree that the aircraft never had to fly into a landing zone while hostilities were under way. Still, Rock said, squadron aircraft came under small-arms fire once and rocket fire once. “Taking advantage of the aircraft’s performance [means that] somebody’s opportunity to engage us is very short,” he said.

The Marine Corps is looking at adding an all-aspect, all-quadrant weapon on the MV-22.

“The system we’re looking at now with the [U.S.] Special Operations Command is an all-aspect weapon that would be mounted in the belly of the aircraft,” Trautman said.

In the News

The weapon will fire in any direction and be controlled by a gunner inside the airplane.

Another MV-22 squadron is operating at Al Asad Air Base today. The Service will create two more squadrons each year.



U.S. Marine Corps Marine Medium Tiltrotor Squadron 162 MV-22 Osprey tiltrotor aircraft prepares to land at Haditha Dam in northern Anbar province, Iraq.

U.S. Marine Corps photo by Lance Cpl. Grant T. Walker

“We’re on a journey to exploit a new and revolutionary technology,” Trautman said. “We’re going to continue to learn lessons and we’re going to continue to improve and we’re going to work hard to exploit the [capabilities of] this aircraft.”

AIR FORCE PRINT NEWS (MAY 6, 2008) **HANSCOM UNIT APPLIES ‘GOLD STANDARD’ TO CONTRACT**

Chuck Paone

HANSCOM AIR FORCE BASE, Mass.—When a joint team led by the Electronic Systems Center awarded the system development and demonstration contract for the Airborne and Maritime/Fixed Station Joint Tactical Radio System this spring, the move triggered not a single protest.

“It’s one way we can tell we listened, learned, understood, and applied the gold standards to make for a successful source selection,” said outgoing program manager Col. Joe Wercinski of ESC’s 653rd Electronic Systems Wing.

“We put together a very thorough, solid, clean acquisition process and team that produced the right result for the warfighter,” he said. “The evidence of that was pretty clear to everyone who reviewed it.”

The five-year contract is worth \$766 million with options that could increase the total value to \$1.3 billion.

The JTRS program began about a decade ago when Defense Department officials decided to unify its communications infrastructure by creating what are known as software-defined radios, which would allow troops, vehicles, ships, and aircraft to easily receive and pass the same information, eliminating disconnects that have often hampered warfighting operations in the past, the colonel said.

“JTRS puts broadband-like wireless capability right into the cockpit, and into submarines and surface ships,” Wercinski said. And while it falls beyond the immediate scope of the airborne and maritime/fixed, or AMF, portion of the massive program, JTRS will also tie in combat vehicles and individual soldiers and Marines on the ground.

Even airborne munitions and small mines can be equipped with JTRS, allowing the weapons to pass information to warfighters, he said.

But bringing such an ambitious joint program together proved very challenging. About five years ago, DoD officials decided to break it into more manageable chunks, or

as they were called, clusters. The AMF cluster, jointly managed out of Hanscom Air Force Base and led primarily by an ESC team, set an acquisition strategy that carefully reduced risk by using pre-SDD awards that helped design the overall effort and examine the challenges to come.

While this effort resulted in two awards, the larger SDD competition was full and open to any company or industry team wishing to participate, Wercinski said.

"We took a very deliberate, thoughtful approach to the acquisition," he said. "We paused when we needed to in order to make sure things were OK—that we were on the right track. We wanted to be sure that, in the end, we could feel really good and really confident in the decisions we made and about the program's likelihood of success—and we definitely do."

The team had to consider a bevy of technical challenges and proposed solutions, he said. "Over the years, DoD and its various contractors have built so many stovepiped radios, each designed to do its specific thing with unique waveforms, that getting down to a reasonable number of waveforms was very important."

JTRS program managers had to reduce an initial 32 waveforms down to about six, he said, picking those considered "transformational."

"Those with the widest spectrum and throughput capability are the ones we want," he said. "The data rates are incredible."

They also had to carefully consider the big three concerns of most engineering designs: size, weight, and power, especially for smaller applications like unmanned aerial vehicles. Because of this, the AMF team is working toward two separate designs—a larger fixed and maritime unit and a small unit for UAVs and rotary wing aircraft that's about the size of a shoebox and will weigh no more than 15 pounds.

"Every ounce is critical where size constraints are in place," the colonel said. On board aircraft, there are also power limitations, and heat is a real concern, too.

"Power when burned turns to heat, so you have to think about cooling and venting," he said. The team took all this and far more into consideration during a rigorous source selection process that involved a large, multi-faceted, and "truly joint" team that included participation from the National Security Agency.

"Now we're on contract, we're fully funded, and we have commitments from each of the Services for our products. That means we're well positioned for success. And that success can be directly attributed to the incredible ESC support this program received," Wercinski said.

Paone writes for 66th Air Base Wing Public Affairs.

NAVY ENTERPRISE RESOURCE PLANNING PROGRAM NEWS RELEASE (MAY 15, 2008) **NAVY ERP ACHIEVES INITIAL OPERATION CAPABILITY**

Vice Chief of Naval Operations Admiral P. M. Walsh released a memorandum May 15, 2008, announcing that initial operating capability (IOC) for the Navy Enterprise Resource Planning (ERP) program was achieved, effective May 12. This major milestone in the program's acquisition life cycle is a significant step in bringing Navy ERP, the Navy's integrated business management system, to 88,000 users across the Service when fully implemented.

The Navy ERP program brings total asset visibility and financial transparency to Navy business operations as part of the Navy's transformation of its business affairs. The system, now in operation at the Naval Air Systems Command (NAVAIR), integrates management functions in program management, finance, workforce management, supply, and maintenance into one system that standardizes and modernizes Navy business practices.

The program constitutes the Navy's adoption of best commercial business practices as it employs a commercial off-the-shelf system in use in hundreds of private, commercial concerns. The Navy conducted four pilot programs to assure that the unique requirements of the Department of Defense and the Navy could be successfully supported by a commercially based system. Lessons learned from the pilots allowed the Navy ERP program office to develop the system that will meet the Navy's requirements while increasing the effectiveness and efficiency of its business operations.

"Achieving IOC is a significant and well-deserved accomplishment for the Navy ERP program, and a transformational step forward for the Navy Enterprise," said Rear Admiral Tim Flynn, program executive officer for Enterprise Information Systems. "The IOC milestone recognizes the dedication and tireless energy of the Navy ERP team in bringing this essential capability to the warfighter."

Release 1.0, now operating at NAVAIR, serves as the foundation of the Navy ERP system and is scheduled for implementation at the Naval Supply Systems Command in February 2010. The Navy ERP program uses a product produced by SAP Corporation and is the largest ERP implementation in the Department of Defense and among the largest implementations ever accomplished.

Media contact is Bob Coble, Navy ERP public affairs officer, 410-919-1725.

AMERICAN FORCES PRESS SERVICE (MAY 16, 2008) **GATES CALLS FOR FASTER APPLICATION OF WARFIGHTING ASSETS**

Jim Garamone

WASHINGTON—The Defense Department needs to worry more about what warfighters need right now than what they may need down the road, Defense Secretary Robert M. Gates said. In a speech to the Business Executives for National Security group, Gates said he will work for the remainder of his time in office to ensure the department fulfills its “sacred obligation” to support U.S. servicemembers now fighting on the front lines. This means doing all that is needed to “see that they are successful on the battlefield and properly cared for at home,” Gates said.

The secretary received the group’s Dwight D. Eisenhower Award during a dinner and spoke of the challenges he has faced since assuming the Pentagon’s top position in December 2006.

Troops fighting in Iraq and Afghanistan need more intelligence, surveillance, and reconnaissance assets; the best possible vehicles; and proper outpatient care and support when they’re wounded, Gates told the group. “These are issues I take seriously—and very personally,” he said.

“These needs require the department to focus on the reality that we are in the midst of two wars and that what we can provide our soldiers and commanders three or four years hence isn’t nearly as important as what we can provide them today or next month,” he said.

The secretary said providing what the nation’s warfighters need requires leadership, vision, and a sense of urgency. He stressed the importance of overcoming obstacles within the Services such as “an unwillingness or hesitancy to upend assumptions and practices that have accumulated in a largely peacetime military establishment and an assumption that the war would soon be over, and therefore, we shouldn’t impinge on programs that produce the

kinds of equipment and capabilities that probably would not be needed in today’s combat.”

Intelligence, surveillance, and reconnaissance assets—particularly unmanned aerial vehicles—illustrate part of the problem, the secretary said. Though UAV technology has been around for some time, he noted, the U.S. military was loathe to invest in the technology.

“The defense establishment didn’t see the potential value or anticipate the need for this capability,” he said. “Put bluntly, we suffered from a lack of vision and have struggled to catch up.”

Commanders throughout the world—but especially in Iraq and Afghanistan—need more of these assets, the secretary said.

Unmanned aerial vehicles, he said, can give ground commanders instantaneous information about what they’re facing—such as a live look at someone planting an improvised explosive device miles down the road a convoy is using—without putting pilots or ground-based scouts at risk.

“I’ve taken a special interest in UAVs, because they are ideal for many of today’s tasks in today’s wars,” Gates said. “They give troops the tremendous advantage of seeing full-motion, real-time, streaming video over a target, such as an insurgent planting an IED on a street corner.”

Since 2001, the total number of UAVs has increased 25-fold to more than 5,000; and over the past few months, the Air Force has doubled the number of Predator UAVs supporting combat operations.

“But that’s still not enough to meet the demand from commanders in the field,” Gates said.

The capability requires innovative thinking and tearing down a bureaucratic culture within all the Services and within the Pentagon that does not encourage innovation. The idea should be that every employee comes to work asking how he or she can help those in combat, the secretary said.

Gates cited the fielding of mine-resistant, ambush-protected vehicles as another example of something that should have happened faster. The vast majority of U.S. combat deaths and wounds are the result of roadside bombs, and enemy fighters increasingly turned to armor-piercing devices as troops’ Humvees were fortified.

"As with UAVs, the department didn't recognize or act on the need for large numbers of these systems early enough," Gates said.

The MRAPs have a distinctive, V-shaped hull that deflects the blast from buried explosives and has proven invaluable in a conflict where these types of attacks have been the No. 1 killer. This capability, too, has been around for years, but the vehicles were not sent to Iraq in large quantities until last year.

"I believe that one factor that delayed fielding was the pervasive assumption ... that the wars in Afghanistan and Iraq would not last long—that regimes could be toppled, major combat completed, the insurgency crushed, and most U.S. troops withdrawn fairly soon," Gates said. "The fact that these vehicles, which cost over a million dollars each, could potentially compete with other longer-term procurement priorities geared toward future wars was probably also a factor."

A year ago, the secretary made MRAPs the department's top procurement priority.

"In under a year, production has soared from 10 vehicles per month to over 1,200," he said. "I was particularly impressed by how quickly industry responded once the Pentagon made MRAPs a priority."

Today, more than 4,500 MRAPs are in Iraq and Afghanistan, and thousands more are on the way. "There have been 151 attacks so far on MRAPs, and all but seven soldiers have survived," Gates said. "These vehicles are saving lives and limbs."

Finally, Gates discussed the obligation the country has to ensure that those wounded receive the best possible care and get the help they need to set them up for their changed lives.

"The wounded warrior program—our highest priority apart from winning the wars in Afghanistan and Iraq—involved two different kinds of leadership challenges: accountability and reforming a lumbering outpatient health care system," Gates said.

The initiative grew out of a Washington Post series on inadequate outpatient care at Walter Reed Army Medical Center here.

"I was disappointed by the initially dismissive response of some in the Army's leadership, who went into damage-

control mode against the press and, in one case, blamed a couple of sergeants," Gates said. "Wrong move."

The secretary said he concluded responsibility lay much higher, and acted accordingly. Gates asked for and received the resignations of the Army secretary, the Army surgeon general, and the Walter Reed commander. Since then, the Veterans Affairs Department and DoD have made significant progress on providing the type of care veterans deserve, Gates said.

"We are on track to complete more than 400 recommendations resulting from the new National Defense Authorization Act and five major studies and commissions," Gates said.

But the most important change has been one of attitude and the establishment of a new way for injured personnel to receive medical treatment: warrior transition units.

"These units are responsible for shepherding injured servicemembers back to their units or helping them transition to veteran status," he said. "Thus far, the Army has created 35 new warrior transition units, caring for over 10,000 soldiers."

Each wounded soldier is assigned a case manager, squad leader, and primary care provider. The units also offer a full range of support for military families, including personnel benefits, financial counseling, employment support, education counseling, childcare, and other needs.

Another change has been to streamline the disability evaluation system, Gates told the business leaders. Servicemembers have complained bitterly about the time and hassles of the old system, rooted as it was in the peacetime military, he said. For example, servicemembers received two separate disability ratings from DoD and VA.

"We are now converting the disability evaluation system into a single and transparent process in which one disability rating would be legally binding by both organizations," Gates said. "One servicemember; one exam; one rating."

A pilot program for the new system began at Washington-area hospitals in November, and the results have been encouraging, Gates said.

"Thus far, over 300 wounded, ill, or injured troops have been treated and evaluated," he said. "Early findings sug-

gest that a better handshake between the VA and DoD could cut in half the time required to transition a veteran to full VA compensation.”

DoD is also increasing the resources it applies toward one of the signature injuries of the wars in Iraq and Afghanistan: post-traumatic stress disorder.

“We are actively working to eliminate any stigma associated with PTSD,” Gates said. “Over 900,000 soldiers have been trained in recent months about symptoms of PTSD and the need to seek assistance.”

Gates cited the recent change to a question on mental health on the security clearance application as part of that effort.

“Too often, troops have avoided seeking help because they were worried it would affect their security clearance and perhaps their career,” he said. “I announced at Fort Bliss two weeks ago that the question about mental health, as a general matter, will now exclude counseling related to service in combat, post-traumatic stress in particular. We hope this will encourage more men and women in uniform to seek help.”

Gates said the men and women of the department want to do right by the men and women on the front lines.

“It’s up to their leaders to clearly articulate the department’s priorities and spell out, as they say in the military, ‘commander’s intent,’” he said. “When we do so, the bureaucracy responds, industry responds, and the nation responds.”

Gates noted he is responsible for the war strategy and for signing the deployment orders to carry it out.

“Every day, my signature on a piece of paper sends our brave men and women in harm’s way,” the secretary said. “At the end of the day, I must be able to look them in the eye—be they in Kandahar or Ramadi or Walter Reed—and tell them, truthfully, that this wealthy and generous country has done everything possible for them.”

AIR FORCE PRINT NEWS (MAY 21, 2008) WING MAINTENANCE, LOGISTICS TO MERGE WITH OPERATIONS

WASHINGTON—On May 12, Air Force Chief of Staff Gen. T. Michael Moseley signed the Global Wing Structure Program Action Directive 08-01. PAD 08-01 directs the

realignment of fighter, rescue, and bomber aircraft maintenance units under flying squadrons.

The Air Force will implement these changes between July 1 and Nov. 30. Major command officials will determine on what specific dates each participating wing will implement these changes.

“I believe the most effective formula is to structure Air Force units by mission and not by function, and aligning maintenance units responsible for sortie generation together with the flying squadrons they support is best for our Air Force,” Moseley said when he made the announcement for such changes Dec. 7. “Aircraft maintenance is a vital element of a flying squadron’s mission, and the maintainers who directly support sortie generation belong in that chain of command.”

Maj. Gen. Robert H. McMahon, director of maintenance, deputy chief of staff for logistics, installations and mission support, believes these changes will strengthen the relationship between operators and maintainers.

“The difference is comparable to the relationship between neighbors and family,” he said. “You know your neighbors but not as well as you know your family. You have a general idea of what your neighbors are doing, but it’s not the same as what you know about your family. By marrying up these units, we will be better connected with each other and better able to understand each other’s challenges and strengths.”

Aligning aircraft maintenance units responsible for sortie generation with the flying squadrons they support provides combatant commanders with the most complete and capable fighting squadrons possible, officials said. It also allows the operations group commander to focus on the generation and employment of airpower. In short, it generates the mission generation command chain.

A new materiel group at wing-level will create a new structure that is aligned to better support the logistics enterprise, flying wings, and combatant commanders. The logistics readiness squadron, aerial support squadron, and the remaining maintenance squadrons form the materiel group and will consolidate traditional logistics functions under a single logistics leader in the wing. The global wing structure also positions the logistics community for future transformation initiatives.

“The squadron is the building block of Air Force organizational structure and must be organized for success,”

Moseley said. "These initiatives allow us to take advantage of process improvements, pool our resources, and reorient our squadrons around our mission."

In the past, the Air Force used an "objective wing" structure that merged maintainers and operators. However, there are differences between the objective wing structure and the new one. Major transformation initiatives are recasting how the Air Force is organized. Manpower reductions and budget challenges have led to many centralization and consolidation or regionalization initiatives.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 27, 2008) **FIVE MILLION BATTLEFIELD ELECTRONIC HEALTH RECORDS NOW AVAILABLE WORLDWIDE**

WASHINGTON—U.S. Army Surgeon General Lt. Gen. Eric B. Schoomaker today announced continued expansion of medical information technology to support a comprehensive electronic health record led by the Army. Medical Communications for Combat Casualty Care, or MC4, provides digital recording capabilities and access to battlefield medical information via ruggedized laptops and handhelds intended to be used in combat zones to document patient care.

MC4 is now used at all Army and Air Force medical facilities on the battlefield; in the Multinational Forces and Observers Effort in Sinai, Egypt; and by Army Special Forces, Navy, and Marine providers throughout Southwest Asia. The system ensures that servicemembers have a lifelong electronic medical record. More than 5 million electronic medical records have been captured since MC4's deployment in 2003.

"Everyone wants MC4 because of its universal benefits," said Lt. Col. Edward T. Clayson, commander of the Army's MC4 program. "Soldiers receive improved continuity of care, providers have up-to-date information to avoid repeat procedures, and commanders have improved medical situational awareness to better place their medical resources and personnel on the battlefield."

When seconds count, a wounded or ill servicemember's medical information can be beamed around the world to hospitals and doctor's offices straight from the battlefield in advance of the patient's arrival.

Wounded soldier Staff Sgt. Matthew Sims experienced the benefits of MC4 firsthand. "Having my medical records available electronically has helped doctors track and fol-

low the treatment I have received at all of the different facilities," Sims said.

To date, the Army's MC4 program has deployed more than 24,000 systems to medical units in Iraq and 13 other countries, and trained more than 26,000 field medics, doctors, nurses, and commanders on how to use the system in combat-support hospitals and battalion aid stations.

Air Force Lt. Col. John Mansfield, M.D., is a strong proponent of a joint medical record initiative, saying most military bases already have joint operability so a single platform just makes sense.

"At Balad Air Force Base, 95 percent of the hospital staff are Air Force personnel, but most of the U.S. patients treated here are Army or Marine Corps," Mansfield said. "We don't care what uniform our patients wear, but it would drive us crazy if there were different systems to document care based on their Service."

After the Gulf War, thousands of deployed servicemembers returned from duty without proof of combat-related illnesses and injuries, resulting in loss of benefits. In 1997, presidential and congressional mandates called for a medical tracking system and lifelong electronic medical record for all servicemembers. MC4 is that solution.

"MC4 is the most comprehensive, proven information medical system on the battlefield," Clayson said.

Clayson adds that MC4 provides servicemembers with peace of mind that their deployed medical data are truly complete and available to them when they return home, aids in the receipt of healthcare benefits from the Veterans Administration, and establishes a lifetime continuity of care.

Learn more about the Army Surgeon General's announcement at < www.armymedicaltechnology.com >. For more information about MC4, visit < www.mc4.army.mil >.

ARMY NEWS SERVICE (JUNE 3, 2008) **HELMET SENSORS, IMPROVED ARMOR HELPING SOLDIER SURVIVABILITY**

J.D. Leipold

WASHINGTON—About 7,000 soldiers from the 101st Airborne and 4th Infantry Divisions deployed to Iraq and Afghanistan are wearing helmet sensors to help Program Executive Office-Soldier improve upon the safety features of the advanced combat helmet.

The external sensor model mounted on the back of the ACH and the internal sensor mounted inside at the crown each have USB ports that allow PEO-Soldier to later download information for safety improvements.

"The sensors measure, store, and record acceleration as well as over-pressure that a soldier experiences in a blast event," said Lt. Col. Robert Myles, product manager for Soldier Survivability. "During phase one, the most important thing the sensors do is provide us with data that will help us improve our soldier protection equipment, such as the chin strap and pad and suspension system."

Myles said both type sensors have been working well and as expected. Data are presently being analyzed. At this point, the data study will not determine if a soldier has experienced traumatic brain injury. "That is something that will be [addressed in] phase two as we continue to work with the medical community to determine exactly what data we need to collect specifically to reduce risk of TBI to our soldiers," he said.

Improved Outer Tactical Vest

The latest in interceptor body armor, the improved outer tactical vest or IOTV, is also being fielded rapidly to soldiers in Afghanistan and Iraq on a one-for-one exchange. All soldiers in theater will have the new version by the end of June, officials said.

"Soldiers who already have it love the new vest for the comfort, feel, and mobility of the system," according to Maj. Hurley Shield, assistant product manager for body armor. "Soldiers love this vest compared to the old system. They like ... being able to move around in the system."

One of the major improvements is the quick-release system that allows soldiers in an emergency situation, such as an overturned vehicle, to free themselves from the body armor and get away.

Side protection plates now wrap around and are integral to the system instead of being attached, as on the older version; yet the vest's weight has been reduced from 34 to 30 pounds. It also features a new yoke and collar design and accepts the current deltoid and groin protectors.

"There are 11 sizes in this system versus the old, which had only eight sizes," said Shield. "So now we have a more customized vest for a soldier with a longer torso and additional sizes in medium long, large long, and extra large long."

AMERICAN FORCES PRESS SERVICE (JUNE 5, 2008)

NEW TASK FORCE TO EXAMINE NUCLEAR WEAPONS, PARTS CONTROL, ACCOUNTABILITY

Donna Miles

WASHINGTON—Defense Secretary Robert M. Gates today announced a new task force to recommend improvements needed to ensure top-level accountability and control of U.S. nuclear weapons, delivery vehicles, and sensitive components.

Gates announced the task force after removing Air Force Secretary Michael W. Wynne and Chief of Staff Gen. T. Michael Moseley over the accidental shipment of four non-nuclear ballistic missile nose-cone assembly components to Taiwan in August 2006.

While citing efforts under way in the Air Force, Navy, and Defense Logistics Agency, Gates said he believes "an outside perspective is required to ensure sufficiently far-reaching and comprehensive measures are taken."

James Schlesinger, former Defense Department and Energy Department secretary and CIA director, will head up the task force. The task force itself will be made up of experts from the Defense Policy Board and Defense Science Board.

The task force will operate under tight deadlines. Within the first 60 days, it will recommend organizational, procedural, and policy improvements involving the Defense Department and Air Force, Gates said. For its second phase, it will report within 120 days on management and oversight of nuclear weapons and related materials and systems across the entire department.

Citing a report on the nose-cone mishandling incident, Gates said no one was put in danger and the integrity of the nation's nuclear deterrent force was not risked. The investigation showed no evidence that the parts were compromised while out of U.S. custody, and no nuclear materials were ever compromised.

"Having said that, this incident represents a significant failure to ensure the security of sensitive military components and, more troubling, it depicts a pattern of poor performance," he said.

While holding the Air Force leadership accountable, Gates called on the task force to support other initiatives under way to identify and fix the structural, procedural, and

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cultural problems that led to the incident. In a memo to Schlesinger, Gates said he urges the entire department to cooperate with and provide any relevant documents and information the task force needs to do its job.

“Your advice should focus on enhancing the department’s ability to sustain public confidence in the safe handling of Department of Defense nuclear assets and bolster a clear international understanding of the continuing role and credibility of the U.S. nuclear deterrent,” he wrote.

ARMY NEWS SERVICE (JUNE 12, 2008) **ARMY’S GREATEST INVENTIONS OF 2007 RECOGNIZED**

Jacqueline M. Hames

WASHINGTON—The Army’s Top 10 Greatest Inventions for 2007 were recognized in a luncheon ceremony June 12 in Arlington, Va.

Gen. Benjamin S. Griffin, commanding general, U.S. Army Materiel Command, praised various research institutions for their inventions and outstanding achievements in providing the best technological solutions for soldiers.

“It’s a tremendous accomplishment,” Griffin said, “I’m very proud to be a part of this. I want to congratulate you all.”

Currently in its sixth year, the program chooses winners based on their impact on Army capabilities, inventiveness, and potential benefits outside the Army. Three of the top inventions focused on increased soldier survivability, providing both physical and mental protection.

Griffin thanked the awardees for their critical contributions to modern warfare.

“When you talk to units in the field, they know about them,” he said of the inventions. “They use them.”

Secretary of the Army Pete Geren made a surprise visit to the ceremony, assisting Griffin in handing out the awards and shaking hands with the winners.

Nominations for the program were submitted across the Army laboratory community, and nine of the 10 recipients are elements of the U.S. Army Research, Development and Engineering Command.

All 10 of the inventions have been deployed in theater.

The Army Greatest Inventions of 2007 are:

Improvised Explosive Device Interrogation Arm U.S. Army Communications-Electronics Research, Development and Engineering Center

The Interrogation Arm is totally operational from inside mine-protected vehicles and provides stand-off detection capability, can detect metal, free- and pry-lift objects, and carry out shallow digging. A camera allows the operator to view objects at the end of the arm.

“The arm was created to help detect improvised explosive devices from greater stand-off distances,” Larry Jackson, team leader, said. When using the arm, the soldier is at a distance of about 20-30 feet [from the IED], Jackson explained.

Interrogation of suspect threats using the arm provides an increased level of survivability for vehicle crews because of the larger distance between the soldier and the threat.

Damage Control Resuscitation of Severely Injured Soldiers U.S. Army Institute of Surgical Research

Fielded in January of 2007, Damage Control Resuscitation limits fluid resuscitation, stabilizing the patient’s blood pressure to minimize renewed bleeding from recently formed blood clots. Blood volume is restored using plasma as the primary resuscitation fluid, with packed red blood cells.

Unmanned Aircraft System Shadow 200 Communications Relay System U.S. Army Aviation and Missile Research, Development and Engineering Center

The CRS improves two-way communications when operating beyond the limits of single-channel ground and system radios. It provides improved situational awareness, call-for-fire capability, and “imminent danger” communication to soldiers.

HMMWV Egress Assistance Trainer U.S. Army Tank Automotive Research, Development and Engineering Center

HEAT teaches soldiers how to react in a vehicle rollover incident through properly training them on how to open safety restraints and exit a Humvee from several rotated positions. It also helps soldiers overcome the natural panic and fear that is associated with rollover incidents.

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The simulator is a replica Humvee cab that physically rolls soldiers over, allowing them to test their training and perform an egress.

“When you are flipped over, things become difficult to do,” Gerard Szczerbinski, member of the development team, said.

Things that were simple when right-side up, like opening doors and removing seatbelts, become complicated when disoriented, he explained.

Now required for all soldiers, HEAT has increased the survival rate in rollover incidents since the training was instituted.

Reconnaissance Vehicle System U.S. Army Aviation and Missile Research, Development and Engineering Center

This vehicle system combines explosive device detection, defeat, and interrogation capabilities onto an integrated platform. It allows soldiers to observe and engage threats from a greater distance during route clearance.

Objective Gunner Protection Kit U.S. Army Armament Research, Development and Engineering Center

The kit provides a common force protection system capable of integration onto multiple vehicle platforms. Its integrated turret is mounted on vehicles, providing all-over ballistic protection from explosive device fragmentation and small arms fire. More than 8,000 kits were fielded in 2007.

The kit is “designed primarily to protect the gunner,” Sanjay Parimi, project designer explained. It has a battery-powered motorized traversing unit that allows soldiers to rotate the kit and gun turret using a joystick. This innovation reduces distraction and enables the gunner to focus on the situation at hand, Parimi said.

Lead designer Thom Kiel agreed, emphasizing that a key component of the kit is its ability to be integrated with common Army weapons.

Parimi and Kiel added the kit could be adapted for civilian use in police forces.

Picatinny Blast Shield for Light Armored Vehicle U.S. Army Armament Research, Development and Engineering Center

The PBS is a modular device that protects vehicles from small arms fire and fragmentation from explosive devices. Its transparent armor mounts onto vehicles to provide front, side, and rear protection.

Similar to the Objective Gunner Protection Kit, the PBS was specifically designed with the light armored vehicles Marines use in mind, Kiel said.

XM982 Excalibur Precision Guided Extended Range Artillery Projectile U.S. Army Armament Research, Development and Engineering Center

Excalibur provides precision guidance, extended range, and greater accuracy through an automatic update of the navigation system. It gives the warfighter unmatched precision and lethality, which is critical in urban warfare, where the risk of collateral damage is high.

M110 7.62mm Semi-Automatic Sniper System U.S. Army Armament Research, Development and Engineering Center

The SASS high-capacity, ammo-configurable, quick-change magazines enable suppressed, increased rate of fire precision lethality against personnel and light materiel targets.

Self Protective Adaptive Roller Kit U.S. Army Tank Automotive Research, Development and Engineering Center

SPARK provides additional stand-off protection to vehicles and crew against pressure-activated or victim-operated explosive devices, and can be installed in various configurations for greater coverage.

ARMY NEWS SERVICE (JUNE 12, 2008) NLOS-C UNVEILED ON CAPITOL HILL

C. Todd Lopez

WASHINGTON—The very first of many Future Combat System vehicles was unveiled June 11 on Capitol Hill for viewing by lawmakers, members of the press, and taxpayers.

Prototype 1 of the Non-Line-of-Sight Cannon, one of the eight manned ground vehicles within Future Combat Systems, was displayed on the National Mall in front of the U.S. Capitol Building.

A total of eight such prototypes will eventually be delivered to Yuma Proving Ground, Ariz., by 2010. The first five will be delivered by December 2008, and the remaining three in early 2009.

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Chief of Staff of the Army Gen. George W. Casey Jr. said the arrival of the vehicle was a significant milestone in the FCS timeline.

“We’ve been talking and briefing and telling people about the FCS for a long time,” the general said. “Right here today, it is real. After a decade of hard work, planning, and effort, the FCS is real.”

The FCS is also relevant to Army operations today, the general said. The NLOS-C is manned by only two soldiers, half the number required for the M109A6 Paladin, the system it replaces. And the cannon is capable of precision targeting, at a greater range than the Paladin, and from a more protected position.

“That gives it relevance in both irregular and regular warfare,” he said.

The drive system for the NLOS-C is hybrid-electric and contains a diesel engine that powers a generator, which charges batteries that in turn power the electric motors that drive the rubber tracks. The vehicle essentially runs on JP-8, but there is no drive shaft off the diesel engine. The entire vehicle is electrically powered by the generator and batteries.

“The first time I saw one of these in California, I was looking for the drive shaft—but instead it was a black cable,” Casey said.

The electricity generated on the NLOS-C powers not just the drive motors but also the array of electrical systems



Prototype 1 of the Non-Line-of-Sight Cannon was unveiled June 12 on Capitol Hill, in Washington, D.C. A total of eight such prototypes will be delivered to Yuma Proving Grounds, Ariz., by 2010. There, Army scientists will put the prototypes through rigorous testing to ensure they meet performance requirements. The NLOS-C is one of the eight manned ground vehicles in Future Combat Systems.

Photo by C. Todd Lopez

on board, including radio transmitters and computers for the FCS network, motors that drive the gun, and the systems that provide automatic loading for munitions on board the system—ensuring that soldiers no longer need to handle the heavy shells and charges used by the system's howitzer weapon, said Lt. Col. Steve Fusinetti, the capabilities manager for FCS with the Army Training and Doctrine Command.

"This thing is completely automated, and the automation system does not get tired," he said. "This is a two-person crew that never has to do the manual labor of touching the rounds like they do in a current force Paladin. Every single step is automated, and the personnel sit in the crew compartment in the front and everything is done for them."

One of the most important capabilities of the NLOS-C is its ability to act as both a node within the FCS network and a relay station. The network will allow commanders, detached from the NLOS-C, to know where the cannon is, how much fuel is on board, what its capabilities are, and how many rounds are still on board. Brigade commanders can view that information and the information of all other FCS systems in range and make informed decisions on how to use them, said Col. Bryan McVeigh, project manager for manned systems integration, FCS brigade combat team.

"The computer system can look through and see four mounted combat systems on the ground and three NLOS-C in range," he said. "It knows how much ammunition is on each vehicle, what its range is, and where the enemy is. It can then figure out, of all the assets in the brigade—NLOS-LS, mounted combat vehicle, the NLOS-C, for instance—which one it wants to pick to engage a target."

The projectiles for the NLOS-C each weigh 100 pounds; the system has a firing range of about 30 kilometers.

Maj. Vince Tolbert, a program manager with the Future Combat Systems Brigade Combat Team, says changes made to the projectiles and charges that are at the very heart of the NLOS-C make it safer and easier for soldiers to operate while making it more lethal for those on the wrong end of the cannon.

"The NLOS-C uses a Modular Artillery Charge System, a new propellant the Army came out with after doing away with bagged propellant," he said. "It's ignited using a laser, which ignites the propellant, which is more reliable than the primer that we used to use for the artillery."

The MACS is a completely sealed plastic canister that sits behind the 100-pound projectile the NLOS-C fires. The charge has a hole on each side that is sealed over with a plastic film. Instead of a firing pin igniting the charge, a laser now does the job.

"You can put the propellant in either way, and you no longer have to worry about the propellant getting wet," Tolbert said.

The NLOS-C is expected to be fielded to combat units by 2017.

AMERICAN FORCES PRESS SERVICE (JUNE 24, 2008) **MULLEN URGES JOINT STAFF TO SPEED UP WARFIGHTER SUPPORT**

Donna Miles

WASHINGTON—The nation's top military officer called on the Joint Staff June 24 to speed up efforts to get new capabilities to warfighters and to focus on building capabilities needed to win not just the current war, but future wars as well. Navy Adm. Mike Mullen, the chairman of the Joint Chiefs of Staff, told his staff during a town hall meeting that they're "really making a difference in these challenging times" and directly affecting troops on the front lines.

"In the end, those are our customers. That's who we need to be thinking about," Mullen told the staffers who gathered for a standing-room-only session in the Pentagon auditorium. "How do we deliver more to them, more rapidly [and] more effectively, so that they can do their job? We need to keep that front and center in everything we're doing."

The admiral cited needs ranging from more intelligence, surveillance, and reconnaissance assets to better irregular warfare training, and he called on his staff to step up their support for these and other critical programs.

"We really do have to lean into this, recognizing these are very real requirements [and that] lives are on the line," he said. "What are the best ideas? How do we harvest those great ideas and then generate and get them out to the fight as rapidly as possible?"

Mullen reported on visits within the past two weeks, where he met with servicemembers and their leaders at Fort Stewart, Ga.; Nellis Air Force Base and Creech AFB, Nev.; McChord AFB and Fort Lewis, Wash.; and Marine Corps Air Ground Combat Center Twentynine Palms, Calif.

Throughout the visits, Mullen said he was struck to see servicemembers with recent combat experience jumping through hoops to pass on the lessons they learned. It's all tied, he said, to "a sense of life and death" and troops' recognition that they can help protect their buddies on the front lines.

"We know people are getting killed in this war. We've got friends out there," Mullen said troops told him during his visits. "We want to get there as fast as we can with the kinds of capabilities that make a difference in their lives and their ability to fight."

At Fort Lewis' Battle Command Training Center, the admiral said he saw new doctrine being incorporated into training scenarios at a fraction of the time it once took.

"They've reduced that cycle time dramatically and pushed it into the brigades going out," giving deploying troops and their leaders a leg up when they arrive in the combat theater, he said.

Mullen said he saw a similar phenomenon at Nellis AFB. There, new tactics, techniques, and procedures that once took two years to be incorporated into training now are taking about two months. Similarly, trainers at Twentynine Palms have made broad strides introducing deploying Marines to the latest enemy improvised explosive device techniques being used in both Iraq and Afghanistan. Cultural training has moved to a whole new level, too, with more than 400 Iraqi role players bringing realism to the training scenarios, he said.

"The whole idea of 'How can I move this all more quickly?' is key," he said.

As troops in the field strive to put lessons learned into place, Mullen urged the Joint Staff to evaluate how it can better support these efforts. "We've got to focus on these wars, move as fast as we can ... to generate capabilities [and] to meet requirements," he said.

SPECIAL TO AMERICAN FORCES PRESS SERVICE (JUNE 27, 2008) ARMY ACCELERATES DELIVERY OF FCS TECHNOLOGIES

Lindy Kyzer

WASHINGTON—The Army is accelerating the delivery of key Future Combat Systems technologies to the field, officials announced June 26. Infantry brigade combat teams will receive the technologies, called "spinouts," sooner than previously planned, officials said.

The spinouts include tactical and urban unattended ground sensors; the non-line-of-sight launch system, the Class I, Block 0 unmanned air vehicle; the small, unmanned ground vehicle; and network kits for Humvees.

Lt. Gen. Michael A. Vane, director of the Army Capabilities Integration Center, discussed the accelerated fielding of cutting-edge equipment in a teleconference with bloggers and online journalists.

"This decision reflects the need to move more aggressively to support current operations across both our Active and Reserve Component capabilities with the Future Combat Systems capabilities," he said.

Commanders and soldiers in the field as well as members of Congress and Defense Department and Army leaders have been asking for future combat technologies to be used for the current fight in Iraq and Afghanistan, Vane said.

Operational needs statements from infantry brigade commanders in 2007 and 2008 were double the number from heavy brigades, and accelerating the fielding of FCS spinouts addresses many of those capability gaps, Army officials said.

Vane pointed out that FCS is not being developed to provide "perfect information."

"We recognize that soldiers will always fight for information," he said. "But the soldier on the battlefield and the commander [are] the best decision maker, the best sensor, the best shooter, the best communicator, the best negotiator with both allies and potential enemies.

"We want technology to enable that soldier and that commander to better understand the battlefield," he continued. "And sometimes people think we're building something that's a fantasy or that technology is the answer to everything, and we absolutely are not. What we are doing is trying to leverage that technological advantage that American industry and America's allies help us bring to the battlefield."

Kyzer works for the office of the chief of Public Affairs, Department of the Army.

Spotlight on DAU Learning Resources

DAU AND NDIA TO SPONSOR DEFENSE SYSTEMS ACQUISITION MANAGEMENT COURSE OFFERING FOR INDUSTRY MANAGERS

DAU and the National Defense Industrial Association will sponsor an offering of the Defense Systems Acquisition Management (DSAM) course for interested industry managers Sept. 8-12, 2008, Loews Annapolis Hotel, Annapolis, Md.

DSAM presents the same acquisition policy information provided to DoD students who attend the Defense Acquisition University courses for acquisition certification training. It is designed to meet the needs of defense industry acquisition managers in today's dynamic environment, providing the latest information related to—

- Defense acquisition policy for weapons and information technology systems, including discussion of the DoD 5000 series (directive and instruction) and the CJCS 3170 series (instruction and manual)
- Defense transformation initiatives related to systems acquisition
- Defense acquisition procedures and processes
- The planning, programming, budgeting, and execution process and the congressional budget process
- The relationship between the determination of military capability needs, resource allocation, science and technology activities, and acquisition programs.

For further information see “Courses Offered” under “Meetings and Events” at <www.ndia.org>. Industry students contact Phyllis Edmonson at 703-247-2577 or e-mail pedmonson@ndia.org. A limited number of experienced government students may be selected to attend each offering. Government students must first contact Bruce Moler at 703-805-5257, or e-mail bruce.moler@dau.mil prior to registering with NDIA.

PROGRAM MANAGER'S TOOLKIT 14TH ED. V2

Acquisition practitioners government-wide are invited to view the 14th Edition v2 of the Program Managers Toolkit dated March 2008 at <<https://acc.dau.mil/CommunityBrowser.aspx?id=213168>>. The 14th Edition is a graphic summary of acquisition policies and managerial skills frequently required by DoD program managers.

AT&L KNOWLEDGE MANAGEMENT SYSTEM (AKMS) VIDEOS

The Defense Acquisition University's Knowledge Sharing team has developed a new site where users can view short videos describing all the systems that make up the AT&L

Knowledge Management System (AKMS), as well as other information in the form of briefs and online tutorials. A login is not required. DAU's goal is to clarify the different knowledge sharing assets and tools that are available to you through the AKMS, 24/7, absolutely free, at <<https://acc.dau.mil/at&lkm>>.

- AT&L Knowledge Management System Overview
- AT&L Knowledge Sharing System
- Acquisition Community Connection
- Best Practices Clearinghouse
- ACQuire Search Engine
- ACQuipedia
- Integrated Framework Chart
- Defense Acquisition Guidebook
- Ask-A-Professor.

DOD LOGISTICS HUMAN CAPITAL STRATEGY

The DoD Logistics Human Capital Strategy, released on May 12, 2008, describes the vision for the logistics functional community, enabling pillars, outcomes, benefits, the implementation approach, and a timeline of key actions and tasks <<https://acc.dau.mil/CommunityBrowser.aspx?id=209617>>. The HCS was written in a collaborative effort with the logistics functional community across the Services, Joint Staff, Defense Logistics Agency, and U.S. Transportation Command. For individuals, the HCS provides a clear career roadmap with consistent expectations and application of competencies and skill requirements, in addition to enhanced opportunity for cross-functional development, flexibility, and growth. For the Services and agencies, the HCS improves logistics synergy that, in turn, provides better capabilities for current and emerging mission requirements. For the Total Force, the HCS provides an enterprise-wide system for identifying, developing, and using necessary competencies to support the warfighter.

VERSION 2.0 OF THE SYSTEMS ENGINEERING PLAN PREPARATION GUIDE

AT&L Systems & Software Engineering has released an updated Systems Engineering Plan (SEP) Preparation Guide Version 2.0. It can be viewed or downloaded at the Acquisition Community Connection Web site <<https://acc.dau.mil/CommunityBrowser.aspx?id=19389&lang=en-US>>. This new version more clearly outlines the strategy for developing a program's technical approach and offers a simplified framework for the program to organize, compile, and document technical planning.

DEFENSE ACQUISITION UNIVERSITY STRATEGIC PARTNERSHIPS

Through the years, the Defense Acquisition University has established strategic partnerships with universities and colleges, defense-sector corporations, professional associations, other government agencies, and international organizations. Partnerships with academic institutions allow DoD AT&L workforce members to transfer DAU course work toward college and university degrees and certificates. Partnerships with industry, professional societies, government agencies, and international organizations focus on sharing training materials, tools, modules, and training opportunities. A complete database of DAU Strategic Partnerships can be found at www.dau.mil/about-dau/partnerships.aspx. During May–June 2008, one partnership was added to the database and a previous partnership was renewed.

Kentucky State University has joined with the Defense Acquisition University Midwest Region as a partner university to provide educational opportunities for the currently enrolled and potential students of each institution. The articulation agreement, which outlines the terms under which Kentucky State University and DAU will work together, was signed May 7, 2008, at Kentucky State University in Frankfort, Ky. DAU Midwest Region Acting Dean Carl D. Hayden, Kentucky State University President Dr. Mary Evans Sias, Interim Provost and VP Academic Affairs Dr. James P. Chapman, and Dean and Professor of the College of Professional Studies Dr. Gashaw W. Lake took part in the signing ceremony. The agreement will ultimately facilitate the transfer of DAU course credits that have been certified by the American Council on Education toward the Kentucky State University bachelor of public administration degree program.

Kentucky State University was founded in 1886. It is the only historically black university and 1890 land-grant institution in the Commonwealth. More information is available at www.kysu.edu/index.cfm. DAU's Midwest Campus in Kettering, Ohio, serves 12 states and holds strategic partnerships with more than 20 civilian universities as well as learning organization agreements with Department of Defense and other federal organizations throughout the region.

Sinclair Community College has renewed its partnership with the Defense Acquisition University to provide educational opportunities for the currently enrolled and potential students of each institution. The articulation agreement, which renews the terms of a previous agreement under which Sinclair Community College and DAU will work together, was signed on June 23, 2008, at Sinclair Community College, in Dayton, Ohio.

DAU Midwest Region Acting Dean Carl D. Hayden and Sinclair Community College Senior Vice President and Provost Dr. Helen Grove took part in the signing ceremony. The agreement will ultimately facilitate the transfer of DAU course credits that have been certified by the American Council on Education toward Sinclair Community College professional certificates and associate of applied science degree programs in the fields of business management, computer information systems, engineering, and operation technology.

Sinclair Community College, located in Dayton, Ohio was founded in 1887. With an enrollment of 24,000 students, Sinclair is one of the largest, by enrollment, community colleges in America. As a comprehensive community college, Sinclair offers a variety of important services:

- University transfer classes and programs (like art, humanities, and sciences)
- Direct-to-work career programs (like health and engineering programs)
- Custom training classes for business workers
- A full-service conference and banquet center
- Expert consulting and assistance to numerous community initiatives.

Last year, Sinclair faculty and staff directly served over 110,000 individuals in college courses, training sessions, and conference center events. Sinclair Community College is named after David A. Sinclair. Sinclair was the late 1800s director of the Dayton, Ohio, YMCA. He was an immigrant to Dayton from the coastal North Highlands of Scotland and founder of the adult training school that has become the world-class Sinclair Community College. More information is available at www.sinclair.edu.

Career Development

AIR FORCE PRINT NEWS (MAY 12, 2008) DEFENSE FORUM HIGHLIGHTS NEED FOR SCIENTISTS, ENGINEERS

Derek Kaufman

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Air Force and U.S. officials forecast a serious shortage of scientists and engineers.

That assessment was made by Joe Sciabica, executive director of the Air Force Research Laboratory, during a Regional Defense Forum May 6.

About 370 business and government leaders attended the event to foster aerospace industry and small business understanding of what's happening inside the fence at one of the Air Force's largest and most diverse installations.

"We are facing a crisis in this nation," Sciabica said, referring to a loss of technical talent and experience as an aging workforce of scientists, engineers, and mathematicians prepares for retirement.

"What alarms me more is that the professors to teach the next generation are also retiring," he added.

Sciabica's immediate challenge is to hire a highly specialized workforce to support consolidation of human performance and sensors research and development at Wright-Patterson AFB. Base Realignment and Closure 2005 decisions will bring about 1,200 military and civilian personnel here from several research sites across the country. Most will fall under AFRL's 711th Human Performance Wing and Sensors Directorate.

Historically, based upon lessons of previous BRAC rounds, a very small percentage of civilians elect to relocate when their positions are moved, said Jacqueline Fisher, director of the 88th Air Base Wing BRAC Office. So talent must be hired from other DoD installations, industry, and academia.

The positions AFRL seeks include behavioral scientists, microbiologists, chemists, human factors engineers, physicists, electrical engineers, contracting, and financial management personnel, Sciabica said.

Fisher said about 33 percent of new hires will have bachelor's degrees, 33 percent will have master's degrees, while another 33 percent will have their doctorate.

People must be hired and in place to meet the BRAC public law deadline, which requires missions up and in operation by Sept. 15, 2011.

Sciabica said he's confident with strong community advocacy and partnerships that Air Force officials will meet the challenge and hire people with the right mix of skills to meet needs. The end-state vision is for Wright-Patterson AFB to become the home of "centers of excellence" for human performance and sensors research.

Filling the positions over the next few years will require a national recruitment effort, said Brad Antle, president of SI International, an industry representative who participated on the panel discussion.

"We need to convince people why Dayton is a great place to work and raise a family," Antle said, noting he would happily trade his Washington, D.C., area commute for one in the Dayton region.

Speaking directly to small business leaders in attendance, Sciabica underscored they play a vital role and explained how Air Force officials have small business advocates to help them understand how to compete for research and construction contracts. He mentioned <www.FedBizOpps.gov> and <www.selltoairforce.org> as two useful starting points, although networking and relationships are key.

"The biggest and by far best [way to market a business] is one-on-one personal contact," he said.

Sciabica acknowledged partnerships and collaboration with industry and the academic world are absolutely critical to AFRL in meeting current and long-term human resource challenges in science, technology, engineering and mathematics, or STEM, disciplines. He advocated funding for STEM education of youth, both locally to capitalize on the presence of AFRL labs and mentors, and nationally. He also highlighted the success of AFRL summer hire and co-op programs.

"If we can get the younger generation into our research areas for a summer or two or three, they tend to get hooked," he said.

The clincher, he added, is when they see the opportunity to translate their technical academic degrees into solving real-world problems for the nation.

Kaufman writes for 88th Air Base Wing Public Affairs.

Career Development

SPECIAL TO AMERICAN FORCES PRESS SERVICE (MAY 14, 2008) **AMERICA SUPPORTS YOU: 'BOOTCAMP' GIVES VETS ENTREPRENEURIAL EDGE**

Annette Crawford

BROOKS CITY-BASE—Starting your own business can be a daunting venture, even under the best of circumstances. But add to that the challenges of being a Service-disabled veteran, and the experience can be overwhelming.

That scenario troubled Mike Haynie, a former Air Force major. A few months after beginning his new career as assistant professor of entrepreneurship and emerging enterprise at Syracuse University's Whitman School of Management in upstate New York, Haynie set out to help those veterans.

He felt "very linked in and connected to what was going on in the military, particularly in Iraq and Afghanistan," he said, and had read newspaper articles about the challenges servicemen and women face when they return

home with a disability as a result of their military service.

"At the same time, I had been doing some academic research on why people choose small-business ownership and entrepreneurship as a career," Haynie said. He found that people who are disadvantaged—whether socially, economically, or physically—are drawn to business ownership and entrepreneurship.

"People with disabilities are more than twice as likely to be self-employed than the general population in the U.S.," he said. "It occurred to me that here I am, at the No. 1 ranked entrepreneurship program in the country as a professor and [with] a background in entrepreneurship—why couldn't we do something? So I took that to my dean, who is a Vietnam-era vet. And before I even got halfway through my pitch, he stopped me and said, 'We're doing this.'"



Professor Mike Morris addresses members of the first Entrepreneurial Bootcamp for Veterans at the Whitman School of Management at Syracuse University in July 2007. Morris is the Witting Chair in Entrepreneurship at Whitman.

Photo courtesy Syracuse University

"This" is the Entrepreneurship Bootcamp for Veterans, a free program that began at Syracuse University in 2007 and is expanding this summer to three other campuses: UCLA Anderson School of Management, Florida State University's College of Business, and Mays Business School at Texas A&M.

The program involves three phases. The first has a self-study curriculum facilitated by online discussion and assessment, and the students develop their own business concepts.

During Phase II, the students are immersed in business principles and practices during a nine-day residency at one of the four EBV universities. It features hands-on workshops and lectures from entrepreneurship faculty representing nationally ranked programs, plus presentations from Fortune 500 business leaders. Students receive a year of ongoing support and mentorship from EBV faculty experts during the final phase.

The program's name is well-deserved, according to some of its first participants. "I had the traditional school setting in mind," said John Raftery, who served in the Marine Corps for more than four years. "The whole experience itself was entrepreneurial-like. You were learning about it and also doing it. It was challenging."

Raftery has seen the bootcamp pay off with big dividends. He formed Patriot Material Handling in Midlothian, Texas, with a business partner who has been in the material-handling business 15 years. His company recently landed a large contract with the Navy, and Raftery said he owes that success to the bootcamp program, where he learned about leveraging resources.

"Everything I learned [in the program] has applied in every area. Surround yourself with people who are smarter than you. Sometimes it's hard, because you want to be the go-to guy," Raftery said. "I've created a team of people with diverse capabilities, and our value proposition is that we're former military and we've held clearances and we understand how the military and the government work, not to mention it's special for us. We understand the mission that we're supporting."

Admission to the program is fairly straightforward. There is no deadline to enroll in the Entrepreneurship Bootcamp for Veterans, which operates on a rolling admissions policy. Acceptance decisions are made as people apply, and assignment decisions are made as to which school they will attend. With a first-come, first-served policy, once the

seats are full, a person's application will be rank-ordered by when it was received and offered a seat in next year's program, Haynie said.

Crawford works at the Air Force Small Business Solutions Center.

AMERICAN FORCES PRESS SERVICE (MAY 15, 2008) **GATES LAUDS MOVES TO BOLSTER CIVILIAN AGENCIES**

Jim Garamone

WASHINGTON—Calling civilian government agencies a "combat multiplier," Defense Secretary Robert M. Gates said last night that he's encouraged by moves to bolster the support that agencies can provide to fight the war on terror.

Speaking at the Academy of American Diplomats, the secretary said there is bipartisan support on Capitol Hill to devote more resources to the State Department and other civilian agencies.

Since the war on terror began, President Bush, defense officials, and military officers have stressed that all parts of the federal government must work together to combat extremists—that the military can put in place conditions for security, but civilian agencies are the repositories of expertise on governance, economics, agriculture, and so on. Countries like Iraq and Afghanistan need these skills to cement progress in place.

"There is a need for a much greater integration of our efforts," Gates said. "There is clearly a need for a better way to organize interagency collaboration."

Defense personnel have always worked in the State Department, but now State Department personnel are assigned to DoD, especially with the combatant commands. The newly formed U.S. Africa Command, for example, has a large number of State Department personnel assigned to the organization. U.S. Southern Command also has a large number of personnel from civilian agencies as integral members of the command.

The civilian expertise is especially needed "when we're being out-communicated by a guy in a cave," Gates said.

The problem with the civilian agencies providing the personnel has not been a lack of will, but a lack of capabilities, Gates said. The State Department has about 6,600

Foreign Service officers. To put it in perspective, that's barely enough to crew one carrier battle group in the Navy, the secretary said.

The upshot is that when civilian agencies cannot deploy personnel, servicemembers step in to take up the slack. The provincial reconstruction teams in Afghanistan and Iraq are primary examples of this, Gates said. The teams, which have slots for officials from the departments of agriculture, commerce, treasury, justice, and so on, were staffed by military personnel so the effort could get up and running quickly.

"There aren't deployable people in agriculture and commerce and treasury and so on that are prepared to go overseas," Gates said.

And these skills are desperately needed, he emphasized. "My view is we are not properly structured to deal with the challenges of the 21st century, which are very complex and have to do not only with security issues but economic development, rule of law, governance, and so on," Gates said.

The State Department has asked for a further 1,000 Foreign Service officers and a significant increase in budget for fiscal 2009. Legislation on Capitol Hill would establish a Civilian Reserve Corps. The proposal is in three parts: a couple of hundred full-time people ready to respond at a moment's notice, a cadre of civilians in agencies around the federal government who could be called up to serve anywhere in the world, and civilians in private life who could—like the National Guard—serve when "federalized."

"The military calls it a force multiplier when they get these civilians on the ground," Gates said.

The national security organization is essentially unchanged since it was enacted in 1947. DoD has let a contract to see what a new National Security Act would look like if it were enacted this year, the secretary said.

"I, frankly, don't have the answers," he said. "We've got a contract out ... to some academic institutions and think tanks to see if we can't come up with some ideas."

He said he hopes the results from the study will give the new administration some options to pursue in the challenging security environment.

AIR FORCE PRINT NEWS (MAY 15, 2008) **AIR FORCE OFFICIALS AWARD STRATEGIC PARTNER CONTRACT**

WASHINGTON—Air Force officials here recently announced the award of the Personnel Services Delivery Transformation—Strategic Partner contract to Lockheed Martin Services, Inc.

The PSDT-SP includes strategic planning, business process re-engineering, change management, and total force service center implementation designed to assist the Air Force in transforming methods of personnel services delivery.

The contract also maximizes efficiency of current operations by consolidating efforts previously provided by 27 different contracts primarily involving support for the Military Personnel Data System and other legacy information technology systems.

"This contract will ensure our processes ultimately enhance airmen's accessibility to conduct personnel transactions," said Lt. Gen. Richard Y. Newton III, the deputy chief of staff for manpower and personnel.

The initial contract is for \$119.9 million during three years of performance—one year with two optional years. If required, this indefinite delivery/indefinite quantity contract contains provisions for ordering additional effort beyond the three years of performance for a total potential value of \$234 million.

This partnership concentrates on process changes in preparation for the Defense Integrated Military Human Resources System delivery and transforms current processes to a total force focus. The PSDT-SP is managed by the director of plans and integration, under the deputy chief of staff for manpower and personnel, in Washington, D.C.

AIR FORCE PRINT NEWS (MAY 20, 2008) **PROMOTION, DEVELOPMENTAL EDUCATION RELEASES COMBINED**

RANDOLPH AIR FORCE BASE, Texas—Air Force officials here recently announced they will begin combining the public releases for officer promotions and developmental education announcements as part of an ongoing effort to streamline personnel processes.

The new initiative will start later this year with the September 2008 lieutenant colonel line of the Air Force central selection board.

Career Development

“Combining these releases is smarter and much more efficient,” said Brig. Gen. Darrell D. Jones, director of Force Management Policy at the Pentagon. “This change reduces the workload involved in processing two separate releases for each officer promotion board, and it eliminates the delay between promotion notification and DE ‘select’ notification.”

In June 2002, officials began announcing officer promotion results and professional military education candidacies separately to place more emphasis on the promotions.

“Because DE opportunities have expanded, ‘re-coupling’ these releases makes more sense now and will save the Air Force time and resources in the long run,” Jones said.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 22, 2008) **DOD SUBMITS PROPOSED NSPS REGULATIONS TO FEDERAL REGISTER**

The Department of Defense and the Office of Personnel Management have issued proposed joint regulations revising the National Security Personnel System, one of DoD’s human resources management systems. NSPS was originally authorized by the National Defense Authorization Act for Fiscal Year 2004 and amended by NDAA 2008.

While Congress made significant changes to the underlying NSPS statute, the core features of NSPS remain essentially intact, including the pay banding and classification structure, compensation flexibilities, and pay for performance system.

The NDAA—

- Brings NSPS under government-wide rules for labor-management relations; disciplinary and adverse actions and employee appeals of adverse actions; and workforce shaping (reduction in force, furlough, and transfer of function)
- Excludes Federal Wage System (blue collar) employees from coverage under NSPS
- Extends and expands exclusion from NSPS coverage for certain DoD laboratories through October 1, 2011
- Requires DoD to collectively bargain when implementing NSPS for DoD bargaining unit employees
- Requires advanced congressional notification for OPM/DoD jointly prescribed NSPS regulations

- Mandates that all employees with a performance rating above “unacceptable” or who do not have a current performance rating receive no less than 60 percent of the annual government-wide General Schedule pay increase (with the balance allocated to pay pool funding for the purpose of rewarding employees with pay increases based on their performance)
- Requires that all NSPS employees with a performance rating above “unacceptable” or who do not have a current performance rating receive locality pay in the same manner as General Schedule employees.

In addition to making regulation changes resulting from NDAA 2008, additional updates that adjust and clarify other NSPS principles include—

- Enabling NSPS coverage for employees appointed for less than 90 days
- Providing a conversion/movement out process for employees moving to GS positions, to ensure consistent pay setting practices for NSPS employees
- Allowing employees to request reconsideration of an individual job objective rating, in addition to the ability to request reconsideration of the overall final rating of record
- Grandfathering GS pay retention timelines for employees covered by GS grade or pay retention rules at the time of their conversion to NSPS.

The NSPS proposed regulation is posted on the Federal Register and may be accessed online at www.gpoaccess.gov/fr/index.html.

The public was invited to submit written comments during a 30-day period, after which remarks were collected, analyzed, and considered for incorporation in the regulations. Final publication is anticipated this fall.

The updated NSPS regulations govern how classification, compensation, and performance management flexibilities will be implemented.

NSPS remains on schedule and will continue implementation throughout the DoD. Currently, NSPS covers approximately 180,000 DoD civilian employees. The next DoD organizations will convert over to NSPS in the late 2008–early 2009 timeframe.

Conferences, Workshops & Symposia

2008 INTERNATIONAL SYMPOSIUM ON BALLISTICS

The 2008 International Symposium on Ballistics will be held Sept. 22–26, 2008, at the Sheraton New Orleans, New Orleans, La. The objective of the 24th International Symposium on Ballistics is to focus on potential technical advances and breakthroughs in the 21st century in the general areas of:

- Interior Ballistics
- Launch Dynamics
- Exterior Ballistics
- Projectile and Warhead Design
- Vulnerability
- Wound Ballistics
- Terminal Ballistics and Impact Physics
- Armor and Personal Protection.

The symposium is an opportunity for ballistics scientists, engineers, and others to report, share, and discuss current research and advances in ballistics and visions of the future.

Register online at <www.ndia.org> through the “Meetings and Events” link or contact Kari Deputy, associate director, at kdeputy@ndia.org or 703-247-2588.

DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES (DMSMS)

DMSMS 2008 will be held at the Palm Springs Convention Center in Palm Springs, Calif., Sept. 22–25, 2008. The primary hotel is the Wyndham Palm Springs; the alternate hotel is the Hilton Palm Springs. The objective of DMSMS 2008 is to focus on the need for proactive DMSMS management to support the warfighter, and includes activities required to attain this goal such as Value Engineering, Total Life Cycle Management, or Parts Management. The conference will present an opportunity to hear the views of military and industrial leaders on what will be required to support the modern warfighter, and a forum to discuss the best programmatic, technical, and logistics approaches. For more information, contact Tracy Tapia, Universal Technology Corporation, at ttapia@utcd Dayton.com or call 937-426-2808. To register online, watch the DMSMS Conference Web site at <www.dmsms2008.com/pages/registration.html>.

LEAN AND QUALITY CONFERENCE AND EXPO 2008

The Lean and Quality Conference and Expo 2008 will be held Sept. 29–Oct. 2, 2008, at the Hilton Minneapolis in Minneapolis Minn. Operational excellence is not limited

to any specific industry or professional niche. The conference provides education and practical applications for people in companies in many industries, including aviation, banking, communications, education, healthcare, hospitality, government, manufacturing, non-profit, and retail.

- Learn new ways to integrate the principles of operational excellence into improvement initiatives throughout your organization.
- Attend educational sessions focused on continuous improvement.
- Hear from world-class speakers.
- See the latest products and services in the industry.
- Network with industry leaders.

For further information, contact Jack Eller, Institute of Industrial Engineers, e-mail jeller@iienet.org or call 770-349-1109.

2008 TARGETS, UAV'S & RANGE OPERATIONS SYMPOSIUM AND EXHIBITION

The 46th Targets, UAVs & Range Operations Symposium and Exhibition will be held Oct. 8-10, 2008, at the Henry B Gonzalez Convention Center in San Antonio, Texas. The 2008 theme will be *Supporting the Warfighter in Times of Change: Test Like You Train ... Train Like You Fight*. For further information, contact Meredith Geary, associate director, mgeary@ndia.org or call 703-247-9476.

NATIONAL DEFENSE INDUSTRIAL ASSOCIATION 11TH ANNUAL SYSTEMS ENGINEERING CONFERENCE

The National Defense Industrial Association 11th Annual Systems Engineering Conference will be held Oct. 20–23, 2008, at the Hyatt Regency Mission Bay in San Diego, Calif. The primary objective of the 11th Annual Systems Engineering Conference is to provide insight, information, and lessons learned into how we can improve the overall performance of defense programs through a better, more focused application of systems engineering that will lead to more capable, interoperable, and supportable weapon systems for the warfighter, with reduced total ownership costs, to help our military meet its current and new mission area and capabilities requirements. For further information, contact Kelly Seymour, meeting planner, kseymour@ndia.org or call 703-247-2583. Register online at <www.ndia.org/Template.cfm?Section=9870>.

Conferences, Workshops & Symposia

2008 DEPARTMENT OF DEFENSE MAINTENANCE SYMPOSIUM & EXHIBITION

The 2008 Department of Defense Maintenance Symposium & Exhibition will be held Oct. 27–30, 2008, at the Colorado Convention Center and the Hyatt Regency at the Colorado Convention Center in Denver, Colo. The theme of the 2008 Symposium is *Technology, Information, Process, and Organizations: Improving Warfighter Maintenance Support*. Maintenance is more critical than ever to warfighter effectiveness and defense preparedness. The 2008 DoD Maintenance Symposium & Exhibition, administered by SAE International, brings together key leaders and maintainers throughout the Department of Defense and commercial industry to explore maintenance, technology, sustainment operations, and materiel readiness.

Key topics to be presented at the symposium—

- Resetting the force
- Advancing technology application
- Leveraging information for maintenance operations
- Restructuring maintenance organizations
- Managing maintenance with marked parts
- Introducing contemporary maintenance concepts
- Implementing prognostics and health monitoring
- Fielding new sustainment concepts
- Benchmarking maintenance activities.

For symposium registration or for more information, e-mail CustomerService@sae.org or call toll free 877-606-7323.

AMERICAN FORCES PRESS SERVICE (MAY 14, 2008)

ENGLAND SEEKS TO BOOST EFFICIENCY, SMOOTH PATH FOR NEXT LEADERS

Donna Miles

WASHINGTON—Vowing to leave the next presidential administration no “spaghetti” to deal with at the Defense Department, Deputy Defense Secretary Gordon England today called on the department to speed up process improvements he said will reduce disruption when a new administration takes charge in January 2009. In support of that goal, England announced plans to institute throughout the department organizational efficiency and effectiveness strategies he introduced last year within the Office of the Secretary of Defense.

Speaking at the department’s first Continuous Process Improvement Symposium in Leesburg, Va., England praised strides made since OSD implemented continuous process improvement and Lean Six Sigma business improvement

strategies in April 2007. He announced that he signed a directive establishing policy and assigning responsibilities to institutionalize the effort throughout DoD.

England urged participants at the three-day conference to be leaders in putting these strategies to work within their organizations. “You need to be out front, encouraging everyone in your organization to participate,” he said.

That leadership will be critical as the department prepares to face a period of disruption during the upcoming presidential administration change, England said. “Regardless of what administration comes in, there is a disruptive period,” he said, with the exodus of current leaders and influx of new ones.

How the department deals with this disruption will be critical, he said, particularly in light of two ongoing wars and other operations around the world. “So we in the Department of Defense have a special responsibility to make sure this transition goes as smoothly and effectively as we can,” he said.

England said he vows to leave the next administration an orderly transition.

“I don’t want to hand any bowls of spaghetti over to the next administration,” he said. “We will bring things to a conclusion, or at least have things packaged in a way that they can easily transition to the next team. The best thing we can do for that next team is to have our processes as good as we can get them—as straightforward and understandable—so we can move in the next administration with as little confusion as possible.”

A big step in that direction, he said, is to work to embed the continuous process improvement and Lean Six Sigma mindset throughout the department.

These strategies provide a well-grounded, well-thought-out management approach to improving organizations, England told the group. “The whole program is aimed at organizational effectiveness. It’s ‘How do I do things better?’” he said. “And I am convinced that when you do things better, it costs you less.”

People want to work in effective and efficient organizations, England said. He cited one of his leadership principles—that leaders provide an environment for people to excel—and said continuous process improvement and Lean Six Sigma strategies help to provide that kind of environment.

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Air Force Lt. Col. Brou Gautier from the Air Staff's continuous process improvement office said the symposium is helping participants see how they can better apply proven industry processes within their own organizations.

"Our job here, in part, is to try to translate that this is not just about producing Camrys off of the Georgetown, Ky., [production] line," he said. "It's about applying process improvement into all facets of the DoD mission: maintenance, operations, administrative transactional areas, logistics, medical, energy. All of those have many processes, and all can stand to be improved."

Navy Capt. Francis Tisak called today's conference an opportunity for the military services and DoD organizations to share ideas and success stories.

"It isn't about the numbers," said Tisak, chief of staff to the deputy assistant secretary of the Navy for management and budget. "The numbers are nice: projects, how many people trained, dollars," he said. "But what's really more important is the mindset. If you have a process-improvement mindset, the dollars will always follow [as savings]."

"If you get a breakthrough on one base, then you can share that best practice across other bases. We need you, as CPI experts, to figure out how to do this," he said.

AIR FORCE PRINT NEWS (MAY 28, 2008) GENERAL ADDRESSES TRANSPORTATION NEEDS DURING AIR FORCE WEEK- PHILADELPHIA

Tech. Sgt. Ben Gonzales, USAF

PHILADELPHIA—The leader of U.S. Transportation Command addressed community leaders and hundreds of airmen about the outlook of American military transportation May 27 at the University of Pennsylvania's Annenberg Center.

Gen. Norton A. Schwartz, USTRANSCOM commander at Scott Air Force Base, Ill., spoke at the Global Reach Forum and Leadership Forum during Air Force Week-Philadelphia.

One of the main priorities the Department of Defense's single manager for global air, land, and sea transportation addressed was the development of the KC-45 refueler.

"Assuming we get a decision [from the Government Accountability Office] June 19, we will be allowed to proceed with the [KC-45] program," Schwartz said. "We will actu-

ally have test airplanes in the June 2010 timeframe, and the first squadron will probably be delivered in 2013."

The development of the KC-45 will bring a couple of key elements to the fight in the future for the American war-fighter.

"The key attribute of this plane is multipoint refueling, both the traditional kind of air refueling that the Air Force understands—so-called boom to receptacle—as well as the basket and probe approach the Navy and other armed forces typically use, and to do it simultaneously. It will also be able to carry passengers and cargo," he said. "It will be a very versatile airplane that will be able to do the tanker mission first and to provide lift when required."



Gen. Norton A. Schwartz, commander of U.S. Transportation Command, discusses issues facing today's Air Force May 27 during a leadership forum at the University of Pennsylvania's Annenberg Center in conjunction with Air Force Week-Philadelphia. The week is designed to broaden awareness of the U.S. Air Force's role in the war on terrorism and strengthen support for airmen serving worldwide in defense of freedom.

Photo by Staff Sgt. Bennie J. Davis III, USAF

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Modern airplanes normally fly three times a day. The KC-135 Stratotanker, in use for air refueling since 1957, was built to fly once every three days, the general said.

Many airplanes in the current inventory have served for more than four decades, and the addition of the KC-45 to the fleet will allow Air Force officials to modernize an aging fleet—a main priority for the Air Force.

Another major factor concerning transportation needs, not just for the Air Force but also for all of Americans, is the cost of fuel.

“The cost of fuel is well over \$1 billion over our initial budget projections,” Schwartz said. “For the moment, we are in a situation where we pay what we pay. It is very important for us to look beyond today. It may not be an issue of if we can pay. It may be an issue if there are sufficient hydrocarbon supplies to use at all. That is a significant issue strategically.

“[The Air Force is] the largest consumer of hydrocarbons in the Department of Defense by far,” Schwartz said. “That places on us a special obligation.”

Knowing this, Air Force officials have been very active in looking at alternative fuel options, he said. Another option may be lighter-than-air technology.

“Lighter-than-air technology has the promise of lifting large quantities with much less reliance on hydrocarbons,” the general said. “It may not be the solution, or it may be part of a solution but that is the kind of thought processes that needs to go into this. How do we find alternatives on one hand, and find vehicles and venues for doing our jobs with less hydrocarbons.”

Moving warfighters and all the supplies needed to sustain military operations around the world takes a team effort. It takes airmen and aircraft, sailors and ships, and civilian aircraft, trains, ships, and vehicles to keep American muscle moving.

“It’s the airfields, the ship ports, the longshoremen, the aerial porters, the aircrews, and the air traffic controllers that matter,” Schwartz said. “For [the Air Force], commercial partners move better than 90 percent of our passengers and they move better than 40 percent of our cargo. The remainder of that is moved by military aircraft properly maintained by active duty, guardsmen, and reservists. So it is a team effort both within the Service and across Service lines and with our commercial partners.”

For the military transportation machine to continue to be successful, it will take support from all Americans, the general said. “America needs good people to do our work,” he said. “I am meeting with the Philadelphia business community and the [local] academic institutions so they get a sense of who I am so I can articulate the demands our people are facing and why the armed forces need good people. We hold [Air Force weeks] so the larger American community understands what our Air Force does and how the entire DoD contributes to American security and prosperity.”

Also addressing the Global Reach Forum audience was Gen. Arthur J. Lichte, the commander of Air Mobility Command at Scott AFB. In a joint discussion, the two four-star generals led a discussion on the needs and future of mobility to accomplish the nation’s objectives around the world. The Air Force Week program is part of a proactive initiative to increase communication with the public. Air Force Week includes community visits and talks by Air Force officials, flight demonstration team performances, and displays highlighting the Air Force men and women serving on the front lines. There also will be an Air Force Week Nov. 14–21 in Los Angeles.

Gonzales writes for Air Force News Agency.

DEFENSE SUPPLY CENTER RICHMOND NEWS RELEASE (JUNE 5, 2008) DLA CONFERENCE BRINGS WARFIGHTER SUPPLIERS TOGETHER

Amy Clement ■ Tonya Johnson

RICHMOND, Va.—A packed audience filled the ballroom for the lunchtime presentation at the Aviation Supply Chain Business conference June 3. Attendees at the conference [heard] Air Force Brig. Gen. Robin Rand, principal director to the deputy assistant secretary of defense for Middle East policy, talk about his experiences while serving in Iraq.

Defense Supply Center Richmond held the conference June 2–4 to build rapport with Defense Logistics Agency’s suppliers and as a way for them to learn up-to-date policies and procedures on government contracts.

Rand spoke about his Air Force roots commanding the 332nd Air Expeditionary wing. “I am honored to have been the commander of the 332nd Fighter Group from Tuskegee, Alabama. In 1944, they had to fight for the right to fight.

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"This was a time when there was a segregated military," Rand said. "After they were trained they weren't allowed to fight. It took a move by Roosevelt to get them into combat, but once they got into the European theater, the Tuskegee airmen—the 332nd fighter group—were phenomenal.

"With 13,000 combat sorties, they were the premier bomber escorts in the war, destroyed and shot down a lot of airplanes, and they paid for it with their blood, sweat, and tears," Rand said. "If you can imagine 66 killed in action and 33 prisoners of war, that's 99 folks in a little over 19 months in combat. Imagine the loss they suffered each month. They treated their country better than their country treated them at the time."

Retired Air Force Lt. Col. Howard Baugh was the luncheon speaker June 4. Baugh, who retired after 25 years of service, was one of those Tuskegee airmen. The Petersburg native and Virginia State College graduate was commissioned as a second lieutenant in 1942.

"We didn't think we were doing anything unusual," said Baugh. "We were fighting for our country."

Baugh, who spoke March 7 at DSCR's Aviation Academy, told the audience about the discrimination he and other African Americans faced while in the military.

"They thought we didn't have what it took to operate a machine as complicated as an airplane," said Baugh. "Although it was thought we couldn't fly airplanes, we flew over 15,000 sorties."

Baugh encouraged participants to embrace diversity. "A lot of people have trouble embracing diversity," he said. "We are becoming more diverse each year. There are lots of forms of discrimination, and it's not just based on race. Racism is learned at home and spread at school and in the workplace."

Baugh said he hopes more people would stand up for what they believe in. "If ordinary people are given proper training, they just may do extraordinary things," he said.

Rand also spoke about current Air Force focus areas including precision weapon and sensor employment, combat search and rescue missions, precision air delivery, command and control tactical air battlespace, senior airfield authority, combat support on the battlefield, and critical medical care.

"When you put it all together that is what we—the Air Force—are doing. We are supporting this ground war," he said. "We are supporting our fellow soldiers, sailors, and Marines and those civilians and Iraqi civilians who are trying to make a better place over there."

Air Force Maj. Gen. Arthur Morrill III, DLA vice director, spoke at the evening awards ceremony June 3. Morrill thanked the suppliers and commented on their commitment. "Over the last two years, you've distinguished yourselves with Automated Best Value System scores of 98 or better."

Morrill said the government relies on the innovation of commercial industry. "From a team perspective, we need you as our partners to not only be innovative in your own processes, but I want you to know we welcome and value your recommendations to make the overall process of end-to-end supply chain management better.

"Not only do we say thank you this evening, but we challenge you for tomorrow," the general said. "In short, we challenge you to work with us as we continuously strive to be better. Most important, though, we thank you for being such great partners."

Army Brig. Gen. Jessie Cross, commander of the Quartermaster Center and School at Fort Lee, kicked off the last day of the conference June 4 as the morning guest speaker.

Cross, previous commander of Defense Supply Center Philadelphia, spoke to conference attendees about how Fort Lee is growing as a result of the Base Realignment and Closure 2005 decision.

As part of BRAC, the Army ordnance and transportation schools will relocate to Fort Lee. The Air Force and Navy culinary schools will relocate there, and a joint military mortuary affairs center will be established there.

"Fort Lee is transforming," said Cross. "The Fort Lee of yesterday will not be the one you see in 2015. Everywhere you turn there is something going on at Fort Lee. I am proud to be a part of this. BRAC allows us to be more efficient and effective."

Clement and Johnson write for Defense Supply Center Richmond Public Affairs.

Acquisition & Logistics Excellence

FROM THE OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND TECHNOLOGY

The office of the deputy under secretary of defense for acquisition and technology is proud to recognize the Defense Acquisition University (DAU) for a significant accomplishment. As of June 16, DAU has exceeded the Lean Six Sigma (LSS) goals established by the under secretary of defense for acquisition, technology and logistics, certifying 14 LSS Black Belts and 64 Green Belts. Lean Six Sigma is an important initiative to A&T and the DoD.

AMERICAN FORCES PRESS SERVICE (MAY 2, 2008)

GATES APPLAUDS EFFORTS AT RED RIVER ARMY DEPOT

Donna Miles

TEXARKANA, Texas—Defense Secretary Robert M. Gates toured Red River Army Depot, observing operations that have won accolades for speed and efficiency in refurbishing worn-out wheeled and tracked vehicles for use by warfighters who depend on them.

The depot, one of the military's largest facilities, has set records in turning around Humvees, heavy expanded mobility tactical trucks and small emplacement excavator vehicles; and rebuilding transmissions and track and road wheels on Bradley fighting vehicles.

Gates walked through the tactical and combat vehicle production lines, watched Bradley transmission and 25-millimeter gun production, and toured the rubber products division building.

"I come away impressed by the skill and the commitment of the men and women who work here, and also by the fact that by refurbishing and resetting this equipment, ultimately they save the taxpayers many millions of dollars every year," Gates told reporters after touring the facility.

"Red River has always come through during times of war," he said. "During the 1940s it ramped up for tank repair, and today it provides life-saving equipment for our fighting troops in Iraq and Afghanistan."

During his tour, Gates learned how applying Lean Six Sigma principles—a methodical approach used throughout industry to increasing efficiency and reducing waste—has speeded up restoring vehicles to like-new condition so they can be returned to the combat theater.

"Humvee production here has skyrocketed from about two Humvees a week in 2004 to an eye-popping 26 Humvees a day in 2006, and 32 a day now," Gates told reporters.

Assembly-line processes have cut to a fraction the time it takes to rebuild battle-damaged wheeled and tracked vehicles, explained Patton Tidwell, the depot's director for contracting. Vehicles move to each new station every 26 minutes, like clockwork.

"We broke complicated procedures into smaller, simpler tasks," Tidwell said. "It's enabling us to take care of warfighters in the field better every day."

The effort has won the depot numerous awards, including its second Shingo Prize Public Sector Award for Excellence in Manufacturing and Achievement, in October. *Business Week* calls the award the "Nobel Prize for manufacturing."

As he toured the facility, Gates nodded hellos to and shook hands with workers he called the driving force behind Red River's success. Some, Gates noted, are fourth-generation employees following in the footsteps of those who cranked into high gear during World War II.

"Their dedication to our troops can be summed up by a placard that the workers place inside each vehicle," he told reporters. "It reads: 'We build it as if our lives depend on it. Theirs do.'"

The motto is ever present at the depot, stamped onto metal silhouettes of weapon-toting combat soldiers that stand like sentinels throughout the facility. "We use this to get our workforce focused on why we're here," Tidwell said. "It's a reminder of who we're working for."

For many, the mission here is highly personal. About 35 percent of the workers are veterans. Tim Perkins, chief of the Humvee maintenance division, retired from the Army with 22 years of service. Kenneth Lynn, a mechanic in the Bradley transmission facility, has a stepson with the Arkansas National Guard serving in Baghdad.

Many workers have volunteered for six-month rotations with Army Materiel Command's forward repair facility in Kuwait.

David May, who manages the depot's heavy and medium tactical division, said the importance of the work really hit home when his son, Army Pvt. Christopher May, told

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him he'd been issued an HMMT that had been refurbished at Red River.

The sentiment was echoed throughout the facility. Barbara Callaway paused from inspecting a rebuilt Bradley transmission system to reflect on why what she does matters. "We have to keep these Bradleys going. If this Bradley transmission goes out, these men and women can't get out of harm's way," she said. "We want to build the best possible transmission to keep them safe."

Gates thanked the depot workers and the Texarkana community that has supported the facility for decades for their "tireless support" of the men and women in uniform.

"People may question whether or not the nation is on a war footing," Gates told reporters. "The people here at Red River Army Depot clearly are on a war footing."

Miles writes for Air Force Press Service.

AMERICAN FORCES PRESS SERVICE (MAY 8, 2008) **PENTAGON CEREMONY FETES SUPERLATIVE DEFENSE INSTALLATIONS**

Gerry J. Gilmore

WASHINGTON—The premier installations from each military service and the Defense Logistics Agency were recognized at a Pentagon award ceremony May 8. John J. Young Jr., under secretary of defense for acquisition, technology and logistics, presented the Commander in Chief's Annual Awards for Installation Excellence.

The highlighted installations have distinguished themselves through effective leadership and management as well as being good stewards of tax dollars, Young said at the ceremony.

"Installations are the backbone to our armed forces," Young said, noting that military posts provide training, billeting, maintenance, research and development, and other valuable facilities, and also serve as U.S. power-projection platforms.

Military installations also "provide a safe place for our military members and their families to live, work, and play," Young said.

This year's awardees are: Fort A.P. Hill, Bowling Green, Va.; Marine Corps Base Camp Pendleton, Calif.; Naval Base Coronado, San Diego; Dover Air Force Base, Dover, Del.; and the Defense Supply Center Richmond, Va.

Wayne Army, deputy under secretary of defense for installations and environment, served as the event's master of ceremonies.

"This prestigious award recognizes the best of the best," Army told the Pentagon auditorium audience before the awards were presented.

President Ronald Reagan created the Commander in Chief's Annual Award for Installation Excellence in 1985. The Defense Logistics Agency was added to the competition in 1988. Cited organizations receive a trophy, an "Installation Excellence" flag, and a letter signed by President Bush.

Gilmore writes for American Forces Press Service.

AIR FORCE PRINT NEWS (MAY 8, 2008) **HILL ENVIRONMENTAL TEAM EARNS DOD AWARD**

Barbara Fisher

HILL AIR FORCE BASE, Utah—A team of environmental specialists at Hill AFB, Utah, has been named the best Environmental Quality Team in the Department of Defense.

The 21-member group, part of the 75th Civil Engineer Group Environmental Division, includes biologists, an archaeologist, several engineers, and other managers who oversee Hill AFB's natural, cultural, and environmental compliance programs.

Representing the Air Force, the Hill AFB team was selected by a panel of judges from the government and private sectors over entries from the Army, Navy, and Marine Corps in the 2007 Secretary of Defense Environmental Awards competition.

The Hill AFB Environmental Quality Team is responsible for overseeing all Hill AFB environmental programs and those at the Utah Test and Training Range, the nation's only permitted site for demilitarization, by detonation and burning, of explosives greater than 10,000 pounds. The team also oversees environmental efforts at the Little Mountain Test Annex, a 740-acre secure Air Force facility on the west end of 12th Street in Ogden.

For the 2007 award, the environmental team was recognized for—

- Reducing hazardous waste costs by more than \$440,000 annually

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- Establishing a new recycling program for scrap metals and other materials that made \$43,000
- Demilitarizing more than 1 million pounds of stockpile missile motor propellant, burning 680 tons of NASA Titan propellant, and successfully transporting and detonating the first 81,000-pound, first-stage Trident missile motor for the Navy
- Helping transform more than 1 million pounds of spent abrasive blast media into construction blocks
- Producing 24.8 million pounds of scrap metal from bombs and targets, avoiding \$5.84 million in disposal costs
- Making drastic facility and operational improvements to reduce by 95 percent the amount of storm water going into the industrial waste water treatment plant, thus decreasing treatment costs
- Training more than 13,500 employees on environmental topics
- Managing 317 archeological sites and 364 historical buildings and consulting regularly with 19 local American Indian tribes
- Processing more than 4,000 National Environmental Policy Act documents
- Being named a Tree City USA for the 14th consecutive year.

"The success of our program depends on the environmental consciousness and ethic of many, many individuals, from our leadership, to the people on the front lines in our production areas," said Bob James, the Hill AFB Environmental Quality Team's division chief. "This year everyone's efforts were recognized. We're proud to receive this award on behalf of the entire Hill AFB community."

Fisher writes for 75th Air Base Wing Public Affairs.

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY (MAY 15, 2008) **DR. CHARLES J. HOLLAND HONORED BY GOVERNMENT COMPUTER NEWS**

Dr. Charles J. Holland, deputy director of the Defense Advanced Research Projects Agency (DARPA) Information Processing and Techniques Office and program manager for DARPA's High Productivity Computing Systems program, has been honored with a 2008 *Government Computer News* Technology Leadership Award. *Government Computer News* announced the awards on May 15 at a special awards ceremony in Washington, D.C., held in conjunction with the Association for Federal Information Resources Management.

Government Computer News recognized Holland for his vision and influence on the direction of government high-performance computing. The recognition culminates years of work by Holland to bring attention to the fact that the United States was falling behind in supercomputing prowess and that keeping pace was important to maintaining national security.

AIR FORCE PRINT NEWS (MAY 16, 2008) **ELMENDORF NCO RECEIVES DOD HONOR**

Staff Sgt. Jared Marquis, USAF

ELMENDORF AIR FORCE BASE, Alaska—Department of Defense officials recently recognized an Elmendorf Air Force Base, Alaska, NCO for significant contributions to the sustainment, beddown, and/or operational capability of AIM-9X Sidewinder missiles for the 3rd Wing.

Staff Sgt. Wayne Zuiderhof of the 3rd Equipment Maintenance Squadron was selected as the 2007 AIM-9X Cutting Edge Award Winner for 2007 because of his "management, maintenance, and drive to maintain an \$18.7 million stockpile and constant improvement to the nation's newest missile," according to the award package.

"Sgt. Zuiderhof is directly involved with every aspect of the AIM-9X at the 3rd Wing," said Capt. Lupe Gutierrez, the 3rd EMS Munitions flight commander. "His flawless management of missiles in both the combat ammunition system and the tactical missile records system ensures accountability of these national assets while providing real-time visibility to warplanners."

Zuiderhof said the award came as a surprise when it was announced at a maintenance banquet.

"I was completely amazed. I had no idea I would ever be recognized with that type of award," the 10-year Air Force veteran said.

"I credit the hard work of everyone who helps me in the daily maintenance," he said. "I can't complete any maintenance without the assistance and support of my team."

Zuiderhof's nomination and subsequent selection were not a surprise to his leadership.

"Wayne is one of the sharpest maintainers I have ever met in my 18-year career," Gutierrez said. "He is a true professional who inspires his airmen, always leads by example, and always from the front. Wayne has tackled every challenge with zeal and professionalism, and he has

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Air Force Staff Sgt. Wayne Zuiderhof checks the depth value on the forward hanger of a weapon May 14 at Elmendorf Air Force Base, Alaska. Zuiderhof, assigned to the 3rd Equipment Maintenance Squadron Munitions Flight, was one of two recipients of the 2007 AIM-9X Cutting Edge Award. Photo by Airman 1st Class Laura Turner, USAF

earned the complete confidence, trust, and respect from the entire munitions community.”

Marquis writes for 3rd Wing Public Affairs.

DEPARTMENT OF DEFENSE NEWS RELEASE (JUNE 2, 2008) **DOD NAMES INAUGURAL CLASS OF NATIONAL SECURITY SCIENCE AND ENGINEERING FELLOWS**

The Department of Defense announced June 2 the selection of six distinguished university faculty scientists and engineers forming the first class of its new National Security Science and Engineering Faculty Fellows program. NSSEFF provides grants to top-tier researchers from U.S. universities to conduct long-term, unclassified, basic research of strategic importance to DoD. These grants engage the next generation of outstanding scientists and engineers in the most challenging technical issues facing DoD.

“Up to \$3 million of direct research support will be granted to each NSSEFF Fellow for up to five years,” said William

Rees, deputy under secretary of defense for laboratories and basic sciences. The fellows conduct basic research in core science and engineering disciplines that underpin future DoD technology development. This basic research is crucial to applications such as sensors, surveillance, information security, cyber and force protection, and power projection. In addition to conducting this unclassified research, Rees noted another important benefit of the NSSEFF program. “[The program offers] opportunities for fellows to participate fully in the DoD research enterprise and share their knowledge and insight with DoD military and civilian leaders, researchers in DoD laboratories, and the national security science and engineering community.”

In response to the NSSEFF Broad Agency Announcement, nearly 150 academic institutions submitted more than 500 nomination letters. More than 350 technical white papers were received and, following a rigorous technical review, 20 semifinalists were invited to submit full proposals outlining their research plans. Each of the semifinalists participated in a scientific interview before a distinguished panel of experts. A list of the fellows, their home institutions, and their research topics is at <www.defenselink.mil/news/d20080602fellowship.pdf>. DoD may elect to announce additional winners of this year’s NSSEFF awards at a later date.

Upon successful completion of negotiations between their academic institutions and DoD research offices, grant awards will be made to the faculty members’ home institutions for support of their research. DoD congratulates each of these remarkable scientists and engineers on their selection as inaugural fellows of the National Security Science and Engineering Faculty Fellows Program.

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AIR FORCE PRINT NEWS (JUNE 4, 2008) MAINTAINERS GO GREEN WITH ELECTRIC VEHICLES

Airman 1st Class Spencer Gallien, USAF

MOODY AIR FORCE BASE, Ga.—The 23rd Equipment Maintenance Squadron recently began testing electric vehicles in an effort to help the Air Force go green. Moody Air Force Base became a test site for the program after a request was made by Air Force Materiel Command officials for the base to evaluate the positive and negative benefits of the environmentally conscious vehicles.

The base received two electric vehicles. The first is a cart used to shuffle parts and personnel back and forth from the flightline. The second is an electric munition loader, also known as a “jammer,” which uses the same tools as any other gas-powered munitions loader, but is powered by an on-board electric source.

“When we received the proposal we saw some huge benefits in the program,” said Maj. Richard Holifield, the 23rd Equipment Maintenance Squadron operations officer. “You can look at the obvious benefits of cost effectiveness and low emissions, but there are also the noise level and deployability aspects.”

Deploying gas powered vehicles involves a lot of prep work, Holifield said. In order for the vehicle to be loaded onto a plane, you must remove all the fluids from the vehicle. When loading an electric vehicle, it’s basically plug and play. The goal of the program is to provide feedback to AFMC to see if ordering the equipment is a viable option for the future.

“The testing has been an ongoing process,” said Master Sgt. Tad Robinson, the 23rd EMS aerospace ground equipment section lead. “We continually send reports explaining what could be changed to make the vehicle a better purchase for the Air Force.” The sergeant also pointed out that any of the complaints the 23rd EMS has had about the vehicles have been minor and, overall, users have been extremely happy with the results.

Through the 23rd EMS testing, the unit believes this is another step towards the Air Force’s continual effort to take care of the planet, Holifield said. “This opens up avenues to test for more cost-effective, long-term environmentally friendly energy sources,” he said. “From this

point on, we are beginning to look at solar power, more energy-efficient lighting, and any other form of energy that the future may hold.

“We’ve really only scratched the surface of what we would like to do,” he said. “These vehicles are cost-effective, environmentally friendly, and easy to deploy. This is a win-win situation for all of us.”

Gallien writes for 23rd Wing Public Affairs.

ARMY NEWS SERVICE (JUNE 4, 2008) ARMY RECOGNIZES 85 ORGANIZATIONS FOR LOGISTICS EXCELLENCE

C. Todd Lopez

ALEXANDRIA, Va.—Hundreds of members of the Army’s logistics community gathered to be recognized for their contributions to the Army during the 2008 Combined Logistics Excellence Awards ceremony and banquet held on June 3.

Soldiers and Army civilians representing 85 winning and runner-up organizations were present at the ceremony to receive plaques on behalf of their organizations. Awards were offered for excellence in maintenance, deployment,



Electric vehicles are currently being used by members of the 23rd Equipment Maintenance Squadron for their daily duties instead of fuel-powered vehicles at Moody Air Force Base, Ga. The Aerospace Ground Equipment shop is testing the electric vehicles for efficiency, and delivering reports to the Air Force Materiel Command on the negative and positive aspects of the program. Photo by Airman 1st Class Brittany Barker, USAF

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and supply. Winners were chosen from across the total Army—including active, National Guard, and reserve components.

Lt. Gen. Ann E. Dunwoody, deputy chief of staff, G-4, presided over the ceremony. Before announcing the ceremony's guest speaker, she told logistics soldiers that the Army is proud of them. "There is something about being in a room surrounded by a bunch of winners—it just feels really good," she said. "Our Army is extremely proud of you and so am I. To all of you, you represent what is good about our Army."

Lt. Gen. Stephen M. Speakes, deputy chief of staff, G-8, spoke to the soldiers and Army civilians, commenting on what they had done for the Army and comparing them to the logisticians who kept soldiers supplied during World War II.

"You have to go back to WWII to see an Army that has sustained combat formation, in combat, the way you have—to be able to compare and contrast what you have achieved. That is no small tribute to your accomplishments."

Among the units named winners during the ceremony was the 180th Transportation Battalion, 4th Sustainment Brigade, 13th Sustainment Command (Expeditionary), III Corps, from Fort Hood, Texas.

The battalion was named winner of the Deployment Excellence, Active Duty Supporting Unit award. Staff Sgt. Jose Latorre was in Washington to receive the award on behalf of his unit. He said teamwork amongst his peers is primarily responsible for the unit winning its award.

"We have been preparing for several months with the deployments we handle in the Fort Hood area," he said. "We have deployed several divisions. The last deployment we did was for the 3rd Armored Cavalry Regiment. On the last rotation it was the 31st Infantry Division. Our teamwork, our organization, has been very tight—which is why we have been so successful in deploying so many big divisions—like 4th ID and 1st Cavalry. This is the cream of the crop."

The U.S. Property and Fiscal Office, Camp Douglas, Wis., was named winner of the Supply Excellence, National Guard, Supply Support Activity award. Warrant Officer Duane Streeck, a warehouse supervisor there, received the award on behalf of his unit.

The USPFO at Camp Douglas runs a supply warehouse for the State of Wisconsin National Guard. The unit issues new equipment in addition to taking in old and unserviceable equipment for turn-in to depots or the Defense Reutilization and Marketing Office. Streeck also said teamwork between the guardsmen there is responsible for helping the unit win its award.

"Among the people we have working for us, everybody is committed to the job we have to do," he said. "There's only 11 of us, so without the teamwork we have, we wouldn't be able to accomplish our mission."

Representatives of the winners of the Combined Logistics Excellence Award were treated to a day in Washington, D.C., to a tour of the Pentagon, and to VIP seating at the Twilight Tattoo.

DEPARTMENT OF DEFENSE NEWS

RELEASE (JUNE 9, 2008)

DOD AWARDS GRANTS TO MINORITY INSTITUTIONS

The Department of Defense announced plans to award 21 grants totaling \$14.1 million to 17 minority institutions as part of the fiscal 2008 DoD Historically Black Colleges and Universities and Minority Institutions Infrastructure Support Program. The grants will enhance education programs and research capabilities at the recipient institutions in scientific disciplines critical to national security and the DoD.

This announcement is the result of competition for infrastructure support funding conducted for the office of Defense Research and Engineering by the Army Research Office and the Air Force Office of Scientific Research. The fiscal 2008 program solicitation received 73 proposals in response to a broad agency announcement issued in November 2007.

Research grants ranging from \$430,000 to \$785,000 will have a performance period of 36 months. Grants will be made by the Army Research Office. All awards are subject to the successful completion of negotiations between DoD and the academic institutions.

The list of recipients for fiscal year 2008 funding can be found on the Web at <<http://preview.defenselink.mil/news/hbcu.pdf>>.

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DEFENSE CONTRACT MANAGEMENT AGENCY NEWS ROOM (MAY 6, 2008) ERNST ENDS 30 YEARS OF FEDERAL SERVICE

Dick Cole

Defense Contract Management Agency Director Keith D. Ernst ended 30 years of service to the United States at a formal retirement ceremony May 6, in Alexandria, Va.

Presiding over Ernst's ceremony was Deputy Under Secretary of Defense for Acquisition and Technology Dr. James Finley. At the ceremony, Finley presented Ernst with the Office of the Secretary of Defense Medal for Meritorious Civilian Service for "exemplary leadership, commitment to excellence, and expert managerial abilities executing the complex and diversified contract management and acquisition logistics services of DCMA."

Ernst served as the deputy director and director of the Defense Department's contract management organization from October 2005 until his retirement.

"Keith held, literally, every senior position of management in DCMA in his career," said Finley. Ernst, whom Finley referred to as a "special friend," was praised by the deputy under secretary as "one of our best leaders who has provided an unwavering commitment to trust and integrity."

"Keith exuded leadership, trust, and integrity," he added, "the absolute cornerstone for making leadership matter. He was steady at the helm ... in very turbulent times and up for service to his country, 24/7, 365."

Present at Ernst's retirement ceremony were his wife, brother, three of his four sisters, his son and two daughters, two granddaughters, four grandsons, a daughter-in-law, and approximately 150 guests from industry and government.

Ernst thanked his wife, Jane, and his family for allowing him to pursue "opportunities and dreams." He saved his greatest gratitude for the nearly 10,000 men and women of DCMA.

"Nothing works unless everyone is working together to make a real impact. It really is all about the people. DCMA does not own any buildings. We do not have any manufacturing assets. All we have is the ability to work the process and the contractors that provide the services for the government on behalf of our warfighters," Ernst said.

Ernst will join his family in Rosemount, Minn., in the suburbs of Minneapolis-St. Paul.

Cole is the chief, Defense Contract Management Agency Public Affairs.

WILLIAMS APPOINTED DEFENSE CONTRACT MANAGEMENT AGENCY NEW DIRECTOR

Charlie E. Williams Jr., was appointed as Defense Contract Management Agency's new director by John J. Young Jr., under secretary of defense for acquisition, technology and logistics, effective May 4.

Prior to assuming his new duties, Williams was the deputy assistant secretary of the Air Force for contracting in the office of the assistant secretary of the Air Force for acquisition, and the U.S. member of the North Atlantic Treaty Organization's Airborne Early Warning and Control Programme Board of Directors.

Prior to this assignment, Williams served as associate deputy assistant director for contracting in the office of the assistant secretary of the Air Force from March 2002 to 2003 and as team lead, program executive officer, and deputy assistant secretary for contracting, office of the assistant secretary of the Air Force for acquisition.

Williams entered federal service in 1982 through the Air Force Logistics Command's Mid-Level Management Training program, Kelly Air Force Base, Texas. Upon graduation, he served as senior buyer and contracting officer for F100 and TF39 engines at Kelly. From 1984 to 1987, Williams was a procurement analyst in the resources and analysis division of Headquarters, Air Force Logistics Command, Wright-Patterson Air Force Base, Ohio.

He participated in the Air Force's prestigious Education with Industry program for a year, working at GE's Aircraft Engines Division, Cincinnati, Ohio, from June 1987 until July 1988. Following this year of duty in the private sector, Williams became the director of business strategy in the acquisition logistics division at Wright-Patterson Air Force Base, Ohio.

In 1990, Williams was named chief, Logistics Support Contracting Division, and in 1992, deputy chief for resources, management and analysis, Headquarters, Air Force Materiel Command, Wright-Patterson AFB.

Williams is a member of the Defense Acquisition Corps and is Level II certified in systems acquisition. He holds a

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bachelor of science degree from Middle Tennessee State University, Murfreesboro, and a master's degree from Tennessee State University, Nashville. He is also a 1996 graduate of the Industrial College of the Armed Forces, where he earned a second master's degree in national resource management.

His awards and recognitions include a special service award, meritorious civilian service award, exceptional civilian service award, and meritorious executive presidential rank award.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 5, 2008)

GENERAL OFFICER ASSIGNMENT

The chief of staff, Air Force announces the assignment of the following general officer: **Maj. Gen. Michael C. Gould**, commander, Second Air Force, Air Education and Training Command, Keesler Air Force Base, Miss., to director, operations and plans (TCJ3), United States Transportation Command, Scott Air Force Base, Ill.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 7, 2008)

FLAG OFFICER ANNOUNCEMENTS

Secretary of Defense Robert M. Gates announced that the President has made the following nomination: **Navy Rear Adm. Kevin M. McCoy** has been nominated for appointment to the grade of vice admiral and assignment as commander, Naval Sea Systems Command, Washington, D.C. McCoy is currently serving as deputy commander for ship design, integration and engineering, Naval Sea Systems Command, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 9, 2008)

GENERAL OFFICER ASSIGNMENTS

The Air Force chief of staff announces the assignment of the following general officers:

Maj. Gen. Thomas J. Owen, commander, Warner Robins Air Logistics Center, Air Force Materiel Command, Robins Air Force Base, Ga., to director, logistics and sustainment, Headquarters, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio.

Maj. Gen. Polly A. Peyer, director, resource integration, deputy chief of staff, logistics, installations and mission support, Headquarters, U.S. Air Force, Pentagon, Washington, D.C., to commander, Warner Robins Air Logistics Center, Air Force Materiel Command, Robins Air Force Base, Ga.

Brig. Gen. Arthur B. Cameron III, commander, 309th Maintenance Wing, Ogden Air Logistics Center, Air Force Materiel Command, Hill Air Force Base, Utah, to director, resource integration, deputy chief of staff, logistics, installations and mission support, Headquarters, U.S. Air Force, Pentagon, Washington, D.C.

Brig. Gen. John B. Cooper, who has been selected to the rank of Maj. Gen., director, logistics, Headquarters, Air Force Special Operations Command, Hurlburt Field, Fla., to commander, 309th Maintenance Wing, Ogden Air Logistics Center, Air Force Materiel Command, Hill Air Force Base, Utah.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 12, 2008)

SENIOR EXECUTIVE SERVICE APPOINTMENT

Secretary of Defense Robert M. Gates announced the following Department of Defense Senior Executive Service appointment: **Jay R. Kistler Jr.**, assistant director, electronic warfare, reassigned to technical director, force development, office of the under secretary of defense for acquisition, technology and logistics, Washington, D.C.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 19, 2008)

FLAG OFFICER ASSIGNMENT

Chief of Naval Operations Adm. Gary Roughead announced the following flag officer assignment: **Capt. James J. Shannon**, who has been selected to the rank of rear admiral (lower half), is being assigned as commander, Naval Surface Warfare Center, Washington, D.C. Shannon is currently serving as executive assistant to the assistant secretary of the Navy for research, development, and acquisition, office of the assistant secretary of the Navy, Washington, D.C.

AIR FORCE PRINT NEWS (MAY 27, 2008) OFFICIALS SELECT ACQUISITION REGIONAL DIRECTORS

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—The Air Force Installation Acquisition Transformation initiative to streamline installation-level purchasing across the continental United States continued to move forward May 21 as Air Force Materiel Command named provisional directors for the new Installation Acquisition Center and the five regional Installation Acquisition Groups.

Gen. Bruce Carlson, AFMC commander, selected Col. Mark Hobson as the provisional director of the Installation Acquisition Center at Wright-Patterson AFB. The IAC

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will provide strategic guidance and vision to the Installation Acquisition Groups, and the IAGs will be aligned under the IAC.

The following people were selected as provisional commanders and directors at the following locations:

- **Col. Steve Elliott**, 788th IAG, St. Louis
- **Lt. Col. Todd Pospisil**, 787th IAG, Warner Robins, Ga.
- **Col. Kurt Stonerock**, 789th IAG, San Antonio, Texas
- **Col. Harold Cunningham**, 790th IAG, Colorado Springs, Colo.
- **Col. Nannette Benitez**, 786th IAG, Hampton Roads, Va.

Secretary of the Air Force Michael W. Wynne approved the IAT concept in August 2007 and charged AFMC officials to lead the initiative. The IAT mission is to transform installation acquisition and contracting to strategically support the warfighter.

The provisional directors will oversee strategic sourcing for goods and services purchased by Air Force base officials within their regions, leveraging scarce dollars and enhancing relationships with suppliers, including small businesses. Each IAG will be staffed mostly by contracting experts and other stakeholders in the sourcing process, with five full-time small-business experts assigned to each region. The IAGs will execute strategic sourcing activities to better leverage Air Force buying power.

“Strategic sourcing is an overall strategy that will allow the Air Force to review where and how it spends money and then determine the most efficient way to acquire the right products and services to meet our customers’ needs,” said Marie McManus, IAT program manager at the AFMC contracting directorate. “With strategic sourcing we are going to simplify the purchasing of similar products and services while reducing the number of manhours used and the number of contracts needed.”

While each installation still will have a contracting office or installation contracting squadron, that office or squadron will have a reduced size and scope. McManus, the ICS, will be responsible for performing limited contracting actions and providing advisory services to installation customers and local service providers. Squadrons at each base will continue to report to installation commanders.

DEPARTMENT OF DEFENSE NEWS RELEASE (MAY 30, 2008) GENERAL OFFICER ASSIGNMENTS

The Air Force chief of staff announces the assignment of the following general officers:

Brig. Gen. Paul G. Schafer, who has been selected for the rank of major general, director, special programs, office of the under secretary of defense for acquisition, technology and logistics, Pentagon, Washington, D.C., to director, plans and policy, J-5, Headquarters, U.S. European Command, Stuttgart-Vaihingen, Germany.

Brig. Gen. Clyde D. Moore II, commander, 478th Aeronautical Systems Wing, Aeronautical Systems Center, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio, to director, special programs, office of the under secretary of defense for acquisition, technology and logistics, Pentagon, Washington, D.C.

AMERICAN FORCES PRESS SERVICE (JUNE 9, 2008)

GATES ANNOUNCES RECOMMENDATIONS ON SENIOR AIR FORCE LEADERSHIP POSITIONS

WASHINGTON—Defense Secretary Robert M. Gates has recommended that President Bush nominate **Michael B. Donley**, the Defense Department’s director of administration and management, to be the next secretary of the Air Force; and **Air Force Gen. Norton A. Schwartz**, commander of U.S. Transportation Command, to become Air Force chief of staff.

Donley would replace Michael W. Wynne, and Schwartz would replace Gen. T. Michael Moseley, both of whom resigned in June in the wake of a report critical of the Service’s oversight of its nuclear weapons program.

In a statement released June 9, Gates described Donley’s current position as being “essentially charged with running the Pentagon and its many complex operations,” and noted that Donley served as assistant secretary of the Air Force for financial management in the first Bush administration and, for a period, as acting secretary of the Air Force.

Gates also recommended that the president designate Donley as acting Air Force secretary, effective June 21.

As commander of TRANSCOM, Schwartz is in charge of the Defense Department’s extensive transportation network and worldwide operations. He has served in senior joint military positions as director of the Joint Staff, director for operations for the Joint Staff, and deputy commander of U.S. Special Operations Command, Gates noted in his statement.

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The defense secretary has also recommended that **Gen. Duncan J. McNabb**, Air Force vice chief of staff, succeed Schwartz at TRANSCOM. McNabb has spent most of his three-plus decades in the Air Force in the areas of lift, refueling, and logistics, “making him an ideal candidate to assume the helm of this command,” Gates said in his statement.

The secretary is also recommending that the president nominate **Lt. Gen. William M. Fraser III**, assistant to the chairman of the Joint Chiefs of Staff, to follow McNabb as the next Air Force vice chief. In his current position, Fraser is the chairman’s chief liaison and advisor on international relations and political-military matters. “In addition to his numerous flying and command assignments in the bomber community, General Fraser has extensive wartime, contingency, and humanitarian relief operational experience,” Gates said in the statement announcing his recommended nominations.

“I am confident that Mike Donley, General Schwartz, and the new Air Force leadership team have the qualifications, skill, and commitment to excellence necessary to guide the Air Force through this transition and beyond,” the statement concluded.

DEPARTMENT OF DEFENSE NEWS RELEASE (JUNE 10, 2008) FLAG OFFICER ASSIGNMENTS

Chief of Naval Operations Adm. Gary Roughead announced today the following assignments:

Capt. David F. Baucom, who has been selected to the rank of rear admiral (lower half), is being assigned as director, logistics/fleet supply officer, N41, U.S. Fleet Forces Command, Norfolk, Va. Baucom is currently serving as commanding officer, Fleet and Industrial Supply Center, Norfolk, Va.

Capt. Maude E. Young, who has been selected to the rank of rear admiral (lower half), is being assigned as program executive officer for space systems/commander, Space and Naval Warfare Systems Command Space Field Activity/director, communications directorate, National Reconnaissance Office, Washington, D.C. Young is currently serving as major program manager for National Reconnaissance Office and National Remote Sensing System, Washington, D.C.

AIR FORCE MATERIEL COMMAND (JUNE 13, 2008)

MATERIEL COMMAND’S TOP CIVILIAN MOVING TO HEADQUARTERS AIR FORCE

Kathleen Lopez

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Air Force officials announced June 12 that **Barbara Westgate** will become the new Air Force assistant deputy chief of staff, strategic plans and programs.

Westgate, a member of the Senior Executive Service, is currently the executive director of Air Force Materiel Command, headquartered at Wright-Patterson AFB.

She will replace Maj. Gen. Charles Stenner Jr., who will become the commander of Air Force Reserve Command.

Replacing Westgate is Dr. Steve Butler, also a member of the Senior Executive Service. Currently he is the executive director at Warner Robins Air Logistics Center, Robins AFB, Ga. Brenda Romine, a member of the Senior Executive Service and currently the director of the 542nd Combat Sustainment Wing at Warner Robins ALC, will take over Butler’s position.

In her new position, Westgate will assist in the development, integration, evaluation, and analysis of the U.S. Air Force Future Years Defense Program that exceeds \$682 billion, as well as the Air Force long-range plan to support national security objectives and military strategy.

Westgate entered government service with the Air Force in 1973. She has served in numerous logistics, financial, and acquisition program management positions.

Prior to assuming her current position, Westgate was Headquarters AFMC director of plans and programs.

“I feel privileged to have served in AFMC the past five years,” Westgate said. “We’ve tackled some tough challenges, and the people of AFMC have always stepped forward to deliver awesome capabilities to our Air Force and the warfighter. I am proud of what we have accomplished.”

In his new position, Butler will advise the AFMC commander in managing all aspects of the command’s mission to deliver war-winning capabilities, aircraft, and weapon systems on time and on cost to America’s warfighters. He will also advise the commander on labor union relations and development of the civilian workforce, which at 70

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percent of AFMC's total force, is the highest among the Air Force's nine major commands.

Butler has served in many broad assignments within the military departments. His assignments range from developing precision guided weapons to senior advisory roles in the office of the secretary of defense. He served as the deputy program director for the F-22 Raptor, and the technical director for most of the Air Force's munitions inventory, including the Joint Direct Attack Munition.

As executive director at Warner Robins ALC, Romine will oversee worldwide logistics management, engineering, supply, contracting, and depot maintenance for a wide variety of aircraft and weapon systems. The center provides worldwide logistics support for C-130 and C-5 transport aircraft, F-15 fighters, U-2 reconnaissance aircraft, as well as support for remotely piloted vehicles, Air Force helicopters, air-to-air missiles, surface motor vehicles and high-technology airborne electronics, avionics, and electronic warfare requirements.

Romine began her Air Force career in 1979 as a clerk typist before entering a training program with the Oklahoma City Air Logistics Center.

Lopez writes for Air Force Materiel Command Public Affairs.

DEPARTMENT OF DEFENSE NEWS RELEASE (JUNE 23, 2008) **DOD ANNOUNCES NOMINATION OF FIRST FEMALE FOUR-STAR GENERAL**

Secretary of Defense Robert M. Gates announced today that the President has nominated **Lt. Gen. Ann E. Dunwoody** of the Army for appointment to the grade of general and assignment as commander, Army Materiel Command.

"Women continue to achieve great success and make invaluable contributions to the defense of this nation. This is an historic occasion for the Department of Defense, and I am proud to nominate Lt. Gen. Ann Dunwoody for a fourth star," said Gates. "Her 33 years of service, highlighted by extraordinary leadership and devotion to duty, make her exceptionally qualified for this senior position."

Dunwoody was commissioned in 1975 and has served in several positions of command, including commanding general of Army Combined Arms Support Command and Fort Lee, and deputy chief of staff, logistics. Dunwoody is

currently the deputy commanding general/chief of staff, Army Materiel Command. If confirmed by the Senate, she will be the first female four-star general in American history. The first female servicemember to achieve the rank of brigadier general was Col. Anna Mae Hays, chief of the Army Nurse Corps, on June 11, 1970. There are currently 57 active duty female general officers in the armed forces, five of whom are lieutenant generals.

OFFICE OF THE PRESS SECRETARY, THE WHITE HOUSE (JUNE 25, 2008) **PERSONNEL ANNOUNCEMENT**

The President intends to nominate **James A. Williams**, of Virginia, to be administrator of the General Services Administration. Williams currently serves as commissioner of the Federal Acquisition Service at the GSA. Prior to this, he served as director of the U.S. Visitor and Immigrant Status Indicator Technology (US-VISIT) program at the Department of Homeland Security. Earlier in his career, he served as deputy associate commissioner for Program Management in the Business Systems Modernization Office at the Internal Revenue Service. Williams received his bachelor's degree from Virginia Commonwealth University and his MBA from The George Washington University.

ARMY NEWS SERVICE (JUNE 27, 2008) **AKO RECEIVES CHARTER, NEW PROJECT MANAGER**

Renee Mongo Jenkins

FORT BELVOIR, Va.—Army Knowledge Online and Defense Knowledge Online received a change to their operating charter June 27, along with a new leader.

AKO/DKO, the Army's knowledge-based learning organization, has been upgraded from a project directorship to board-selected project management. Along with the new PM comes new leadership. In a ceremony officiated by Program Executive Officer for Enterprise Information Systems Gary Winkler, Col. James Barrineau, outgoing project director, handed leadership of AKO/DKO over to Col. Earl Noble, incoming project manager for AKO.

"This is a testament to the importance of this program and paves the way to a defense-wide enterprise portal," said Barrineau.

As the single point of entry into a robust and scalable knowledge management system, AKO is strategically changing the way the Army does business, he said.

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“Our vision for the future is to provide a single entry point that empowers knowledge dominance, ensures synchronization of resources, and aggressively enables situational awareness and operational security throughout the DoD community,” said Noble, incoming project manager.

He said that by enabling greater knowledge sharing among Army communities, AKO fosters improved decision dominance by commanders and business stewards in the battlespace, organizations, and Army’s mission processes.

“Eventually, we envision even extending access to the portal to our critical mission partners,” he said.

Although users will not see a change in AKO functionality as a result of the change in charter, the new charter enables AKO to move forward in its mission to transform the Army and DoD into a network-centric, knowledge-based force.

AKO began as a communication project in the Pentagon’s General Officer Management Office in 1996 by then-Chief of Staff Gen. Dennis J. Reimer. At the time, Reimer used it to collaborate with other general officers by e-mail and online chat capability. The senior Army leadership liked the Reimer program.

CENTER FOR ACQUISITION & LOGISTICS (SOAL)

The U.S. Special Operations Command is at the forefront of our nation’s defense leading the Global War on Terrorism. Currently, U.S. Special Operations Command is looking for qualified acquisition and logistics personnel for duty at MacDill Air Force Base in Tampa, Fla.

The Special Operations Acquisition and Logistics Organization at U.S. Special Operations Command (USSOCOM) is an organization of highly talented Defense Acquisition certified professionals. Its mission is to plan, acquire, field, and sustain the combat systems and equipment for the nation’s elite Special Operations Forces. USSOCOM is looking for innovative, highly talented, and world-class performers to join the workforce at MacDill.

As an acquisition professional at USSOCOM, you’ll be part of integrated military/civilian teams directly supporting the USSOCOM mission: “Provide fully capable Special Operations Forces to defend the United States and its interests. Plan and synchronize operations against terrorist networks.”

SOAL has openings in the different acquisition career fields including multiple positions in program management (1101 series—this is the 340 series in other Services); contracting (1102 series);

logistics (346 series); and several others. All interested professionals are invited to apply for these acquisition positions *today*. **Note:** Secret clearance is the minimum required classification to work at USSOCOM, and most positions require higher clearances. Headquarters, United States Special Operations Command is located at—

**HQ, USSOCOM
7701 Tampa Point Boulevard
MacDill AFB FL 33621**

The United States Air Force is the Executive Agent for jobs at MacDill Air Force Base. *Current* Air Force employees can apply for internal self-nomination at < www.afpc.randolph.af.mil >. *External* candidates and others with status can self-nominate at < www.usajobs.opm.gov > or click on one of the SOAL USA JOBS links at < www.socom.mil/jobs/SOAL/SOAL_Jobs.html >.

Put your professional skills to work at USSOCOM and MacDill AFB and make a difference!



We're Looking For A Few Good Authors

Got opinions to air? Interested in passing on lessons learned from your project or program? Willing to share your expertise with the acquisition community? Want to help change the way DoD does business?

You're just the person we're looking for.

Write an article (no longer than 2,500 words) and *Defense AT&L* will consider it for publication. Our readers are interested in real-life, hands-on experiences that will help them expand their knowledge and do their jobs better.

What's In It For You?

First off, seeing your name in print is quite a kick. But more than that, publishing in *Defense AT&L* can help advance your career. One of our authors has even been offered jobs on the basis of articles written for the magazine.

Now we can't promise you a new job, but many of our authors:

- Earn continuous learning points
- Gain recognition as subject matter experts
- Are invited to speak at conferences or symposia
- Get promoted or rewarded.

For more information and advice on how to submit your manuscript, check the writer's guidelines at < www.dau.mil/pubs/damtoc.asp > or contact the managing editor at [datl\(at\)dau.mil](mailto:datl(at)dau.mil).

If you're interested in having longer, scholarly articles considered for publication in the *Defense Acquisition Review Journal*, or if you're a subject matter expert and would be willing to referee articles, contact the managing editor at [defensearj\(at\)dau.mil](mailto:defensearj(at)dau.mil). Be sure to check the guidelines for authors at < www.dau.mil/pubs/arq/arqtoc.asp > .

Acquisition & Logistics Excellence

An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net



Acquisition Central

<http://acquisition.gov>

Shared systems and tools to support the federal acquisition community and business partners.

Acquisition Community Connection (ACC)

<http://acc.dau.mil>

Policies, procedures, tools, references, publications, Web links, and lessons learned for risk management, contracting, system engineering, TOC.

Aging Systems Sustainment and Enabling Technologies (ASSET)

<http://asset.okstate.edu/asset/index.htm>

Government-academic-industry partnership. ASSET program-developed technologies and processes expand the DoD supply base, reduce time and cost of parts procurement, enhance military readiness.

Air Force (Acquisition)

www.safaq.hq.af.mil

Policy; career development and training opportunities; reducing TOC; library; links.

Air Force Institute of Technology

www.afit.edu

Graduate degree programs and certificates in engineering and management; Civilian Institution; Center for Systems Engineering; Centers of Excellence; distance learning.

Air Force Materiel Command (AFMC) Contracting Laboratory's FAR Site

<http://farsite.hill.af.mil>

FAR search tool; *Commerce Business Daily* announcements (CBDNet); *Federal Register*; electronic forms library.

Army Acquisition Support Center

<http://asc.army.mil>

News; policy; *Army AL&T Magazine*; programs; career information; events; training opportunities.

Army Training Requirements and Resources System

<https://www.atrrs.army.mil>

Army system of record for managing training requirements.

Assistant Secretary of the Army (Acquisition, Logistics & Technology)

<https://webportal.saalt.army.mil>

ACAT Listing; ASA(ALT) Bulletin; digital documents library; links to other Army acquisition sites.

Association for the Advancement of Cost Engineering International (AACE)

www.aacei.org

Planning and management of cost and schedules; online technical library; book-

store; technical development; distance learning.

Association of Old Crows (AOC)

www.crows.org

News; conventions, courses; *Journal of Electronic Defense*.

Association of Procurement Technical Assistance Centers (APTAC)

www.aptac-us.org

PTACs nationwide assist businesses with government contracting issues.

AT&L Knowledge Sharing System

<http://akss.dau.mil>

Automated acquisition reference tool covering mandatory and discretionary practices.

Central Contractor Registry

<http://www.ccr.gov/>

Registration for businesses wishing to do business with the federal government under a FAR-based contract.

Committee for Purchase from People Who are Blind or Severely Disabled

www.abilityone.gov

Information and guidance to federal customers on the requirements of the Javits-Wagner-O'Day (JWOD) Act.

Defense Acquisition University (DAU) and Defense Systems Management College (DSMC)

www.dau.mil

DAU Course Catalog; *Defense AT&L* magazine and *Defense Acquisition Review Journal*; DAU/DSMC course schedules; educational resources.

DAU Alumni Association

www.dauaa.org

Acquisition tools and resources; links; career opportunities; member forums.

DAU Distance Learning Courses

www.dau.mil/register/enroll.asp

DAU online courses.

Defense Advanced Research Projects Agency (DARPA)

www.darpa.mil

News releases; current solicitations; *Doing Business with DARPA*.

Defense Business Transformation Agency (BTA)

www.acq.osd.mil/scst/index.htm

Policy; newsletters; Central Contractor Registration (CCR); assistance centers; DoD EC partners.

Defense Information Systems Agency (DISA)

www.disa.mil

Defense Information System Network; Defense Message System; Global Command and Control System.

Defense Modeling and Simulation Office (DMSO)

www.dmsi.mil

DoD modeling and simulation master plan; document library; events; services.

Defense Technical Information Center (DTIC)

www.dtic.mil/

DTIC's scientific and technical information network (STINET) is one of DoD's largest available repositories of scientific, research, and engineering information. Hosts over 100 DoD Web sites.

Deputy Under Secretary of Defense for Acquisition, Technology and Logistics (DUSD(AT&L))

www.acq.osd.mil/at

Acquisition and technology organization, goals, initiatives, and upcoming events.

Director, Defense Procurement and Acquisition Policy (DPAP)

www.acq.osd.mil/dpap

Procurement and acquisition policy news and events; reference library; acquisition education and training policy, guidance.

DoD Acquisition Best Practices Clearinghouse

<https://bpch.dau.mil>

The authoritative source for acquisition best practices in DoD and industry. Connects communities of practice, centers of excellence, academic and industry sources, and practitioners.

DoD Defense Standardization Program

www.dsp.dla.mil

DoD standardization; points of contact; FAQs; military specifications and standards reform; newsletters; training; nongovernment standards; links.

DoD Enterprise Software Initiative (ESI)

www.esi.mil

Joint project to implement true software enterprise management process within DoD.

DoD Inspector General Publications

www.dodig.osd.mil/pubs/

Audit and evaluation reports; IG testimony; planned and ongoing audit projects of interest to the AT&L community.

DoD Office of Technology Transition

www.acq.osd.mil/ott

Information about and links to OTT's programs.

DoD Systems Engineering

www.acq.osd.mil/se

Policies, guides and information on SE and related topics, including developmental T&E and acquisition program support.

Earned Value Management

www.acq.osd.mil/pm

Implementation of EVM; latest policy changes; standards; international developments.

Electronic Industries Alliance (EIA)

www.eia.org

Government relations department; links to issues councils; market research assistance.

Federal Acquisition Institute (FAI)

www.fai.gov

Virtual campus for learning opportunities; information access and performance support.

Federal Acquisition Jumpstation

<http://prod.nais.nasa.gov/pub/fedproc/home.htm>

Procurement and acquisition servers by contracting activity; CBDNet; reference library.

Federal Aviation Administration (FAA)

<http://fast.faa.gov>

Online policy and guidance for all aspects of the acquisition process.

Federal Business Opportunities

www.fedbizopps.gov

Single government point-of-entry for federal government procurement opportunities over \$25,000.

Federal R&D Project Summaries

www.osti.gov/fedrnd/about

Portal to information on federal research projects; search databases at different agencies.

Federal Research in Progress (FEDRIP)

<http://grc.ntis.gov/fedrip.htm>

Information on federally funded projects in the physical sciences, engineering, life sciences.

Fedworld Information

www.fedworld.gov

Central access point for searching, locating, ordering, and acquiring government and business information.

Government Accountability Office (GAO)

<http://gao.gov>

GAO reports; policy and guidance; FAQs.

General Services Administration (GSA)

www.gsa.gov

Online shopping for commercial items to support government interests.

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Government-Industry Data Exchange Program (GIDEP)

www.gidep.org

Federally funded co-op of government-industry participants, providing electronic forum to exchange technical information essential to research, design, development, production, and operational phases of the life cycle of systems, facilities, and equipment.

GOV.Research_Center

<http://grc.ntis.gov>

U.S. Dept. of Commerce, National Technical Information Service, and National Information Services Corporation joint venture, single-point access to government information.

Integrated Dual-Use Commercial Companies (IDCC)

www.idcc.org

Information for technology-rich commercial companies on doing business with the federal government.

International Society of Logistics

www.sole.org

Online desk references that link to logistics problem-solving advice; Certified Professional Logistician certification.

International Test & Evaluation Association (ITEA)

www.itea.org

Professional association to further development and application of T&E policy and techniques to assess effectiveness, reliability, and safety of new and existing systems and products.

Joint Capability Technology Demonstrations (JCTD)

www.acq.osd.mil/jctd

JCTD's accomplishments, articles, speeches, guidelines, and POCs.

U.S. Joint Forces Command

www.jfcom.mil

"Transformation laboratory" that develops and tests future concepts for warfighting.

Joint Fires Integration and Interoperability Team

<https://jfiit.eglin.af.mil>

USJFCOM lead agency to investigate, assess, and improve integration, interoperability, and operational effectiveness of Joint Fires and Combat Identification across the Joint warfighting spectrum. (Accessible from .gov and .mil domains only.)

Joint Interoperability Test Command (JITC)

<http://jitc.fhu.disa.mil>

Policies and procedures for interoperability certification; lessons learned; support.

Joint Spectrum Center (JSC)

www.jsc.mil

Operational spectrum management support to the Joint Staff and COCOMs; conducts R&D into spectrum-efficient technologies.

Library of Congress

www.loc.gov

Research services; Copyright Office; FAQs.

MANPRINT (Manpower and Personnel Integration)

www.manprint.army.mil

Points of contact for program managers; relevant regulations; policy letters from the Army Acquisition Executive; briefings on the MANPRINT program.

National Aeronautics and Space Administration (NASA)'s Commercial Technology Office (CTO)

<http://technology.grc.nasa.gov>

Promotes competitiveness of U.S. industry through commercial use of NASA technologies and expertise.

National Contract Management Association (NCMA)

www.ncmahq.org

Educational products catalog; publications; career center.

National Defense Industrial Association (NDIA)

www.ndia.org

Association news; events; government policy; *National Defense* magazine.

National Geospatial-Intelligence Agency

www.nima.mil

Imagery; maps and geodata; Freedom of Information Act resources; publications.

National Institute of Standards and Technology (NIST)

www.nist.gov

Information about NIST technology, measurements, and standards programs, products, and services.

National Technical Information Service (NTIS)

www.ntis.gov

Online service for purchasing technical reports, computer products, videotapes, audiocassettes.

Naval Sea Systems Command

www.navsea.navy.mil

TOC; documentation and policy; reduction plan; implementation timeline; TOC reporting templates; FAQs.

Navy Acquisition and Business Management

www.abm.rda.hq.navy.mil

Policy documents; training opportunities; guides on risk management, acquisition environmental issues, past performance; news and assistance for the Standardized Procurement System (SPS) community; notices of upcoming events.

Navy Acquisition, Research and Development Information Center

www.onr.navy.mil/sci_tech

News and announcements; publications and regulations; technical reports; doing business with the Navy.

Navy Best Manufacturing Practices Center of Excellence

www.bmpcoe.org

National resource to identify and share best manufacturing and business practices in use throughout industry, government, academia.

Naval Air Systems Command (NAVAIR)

www.navair.navy.mil

Provides advanced warfare technology through the efforts of a seamless, integrated, worldwide network of aviation technology experts.

Office of Force Transformation

www.off.osd.mil

News on transformation policies, programs, and projects throughout DoD and the Services.

Open Systems Joint Task Force

www.acq.osd.mil/osjtf

Open systems education and training opportunities; studies and assessments; projects, initiatives and plans; library.

Parts Standardization and Management Committee (PSMC)

www.dscc.dla.mil/programs/psmc

Collaborative effort between government and industry for parts management and standardization through commonality of parts and processes.

Performance-based Logistics Toolkit

<https://acc.dau.mil/pbltoolkit>

Web-based 12-step process model for development, implementation, and management of PBL strategies.

Project Management Institute

www.pmi.org

Program management publications; information resources; professional practices; career certification.

Small Business Administration (SBA)

www.sba.gov

Communications network for small businesses.

DoD Office of Small Business Programs

www.acq.osd.mil/osbp

Program and process information; current solicitations; Help Desk information.

Software Program Managers Network

www.spmn.com

Supports project managers, software practitioners, and government contractors. Contains publications on highly effective software development best practices.

Space and Naval Warfare Systems Command (SPAWAR)

<https://e-commerce.spawar.navy.mil>

SPAWAR business opportunities; acquisition news; solicitations; small business information.

System of Systems Engineering Center of Excellence (SoSECE)

www.sosece.org

Advances the development, evolution, practice, and application of the system of systems engineering discipline across individual and enterprise-wide systems.

Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L))

www.acq.osd.mil

USD(AT&L) documents; streaming videos; links.

U.S. Coast Guard

www.uscg.mil

News and current events; services; points of contact; FAQs.

U.S. Department of Transportation Maritime Administration

www.marad.dot.gov

Information and guidance on the requirements for shipping cargo on U.S. flag vessels.

Links current at press time. To add a non-commercial defense acquisition/acquisition and logistics-related Web site to this list, or to update your current listing, please fax your request to *Defense AT&L*, 703-805-2917 or e-mail [datl\(at\)dau.mil](mailto:datl(at)dau.mil). Your description may be edited and/or shortened. DAU encourages the reciprocal linking of its home page to other interested agencies. Contact: [webmaster\(at\)dau.mil](mailto:webmaster(at)dau.mil).



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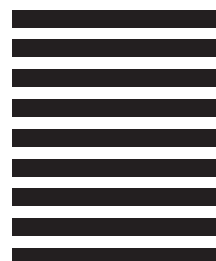
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Defense AT&L Writer's Guidelines in Brief

Purpose

Defense AT&L is a bi-monthly magazine published by DAU Press, Defense Acquisition University, for senior military personnel, civilians, defense contractors, and defense industry professionals in program management and the acquisition, technology, and logistics workforce. The magazine provides information on policies, trends, events, and current thinking regarding program management and the acquisition, technology, and logistics workforce.

Submission Procedures

Submit articles by e-mail to [datl\(at\)dau.mil](mailto:datl(at)dau.mil) or on disk to: DAU Press, ATTN: Carol Scheina, 9820 Belvoir Rd., Suite 3, Fort Belvoir VA 22060-5565. Submissions must include the author's name, mailing address, office phone number, e-mail address, and fax number.

Receipt of your submission will be acknowledged in five working days. You will be notified of our publication decision in two to three weeks.

Deadlines

Issue	Author Deadline
July-August	1 October
March-April	1 December
May-June	1 February
July-August	1 April
September-October	1 June
November-December	1 August

If the magazine fills before the author deadline, submissions are considered for the following issue.

Audience

Defense AT&L readers are mainly acquisition professionals serving in career positions covered by the Defense Acquisition Workforce Improvement Act (DAWIA) or industry equivalent.

Style

Defense AT&L prints feature stories focusing on real people and events. The magazine also seeks articles that reflect your experiences and observations rather than pages of researched information.

The magazine does not print academic papers; fact sheets; technical papers; white papers; or articles with footnotes, endnotes, or references. Manuscripts meeting any of those criteria are more suited to DAU's journal, *Acquisition Review Journal* (ARJ).

Defense AT&L does not reprint from other publications. Please do not submit manuscripts that have appeared in print elsewhere. *Defense AT&L* does not publish endorsements of products for sale.

Length

Articles should be 1,500 – 2,500 words.

Format

Submissions should be sent via e-mail as a Microsoft® Word attachment.

Graphics

Do not embed photographs or charts in the manuscript. Digital files of photos or graphics should be sent as e-mail attachments or mailed on zip disks or CDs (see address above). Each figure or chart must be saved as a separate file in the original software format in which it was created.

TIF or JPEG files must have a resolution of 300 pixels per inch; enhanced resolutions are not acceptable; images downloaded from the Web are not of adequate quality for reproduction. Detailed tables and charts are not accepted for publication because they will be illegible when reduced to fit at most one-third of a magazine page.

Non-Department of Defense photos and graphics are printed only with written permission from the source. It is the author's responsibility to obtain and submit permission with the article.

Author Information

Contact and biographical information will be included with each article selected for publication in *Defense AT&L*. Please include the following information with your submission: name, position title, department, institution, address, phone number, and e-mail address. Also, please supply a short biographical statement, not to exceed 25 words, in a separate file. We do not print author bio photographs.

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